68th YEAR

AMERICAN GAS JOURNAL

DECEMBER 1945

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It's here at last—the improved postwar diaphragm which the industry has needed for so long.

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The new VULCAN MOLDED LOOP eliminates forever the tedious meter shop process of fluting and crimping. No more tieing on! No cord to break. No more tie leaks. The new molded loop comes securely attached to the rings by special steel wire that banishes bulky strings and knots . . . provides a more positive seal.

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The new VULCAN MOLDED LOOP is a truly "sensational" development, say the most conservative of engineers and maintenance men. Outstanding utilities are adopting it as standard equipment. See it. Test it. Write for complete details and samples today.

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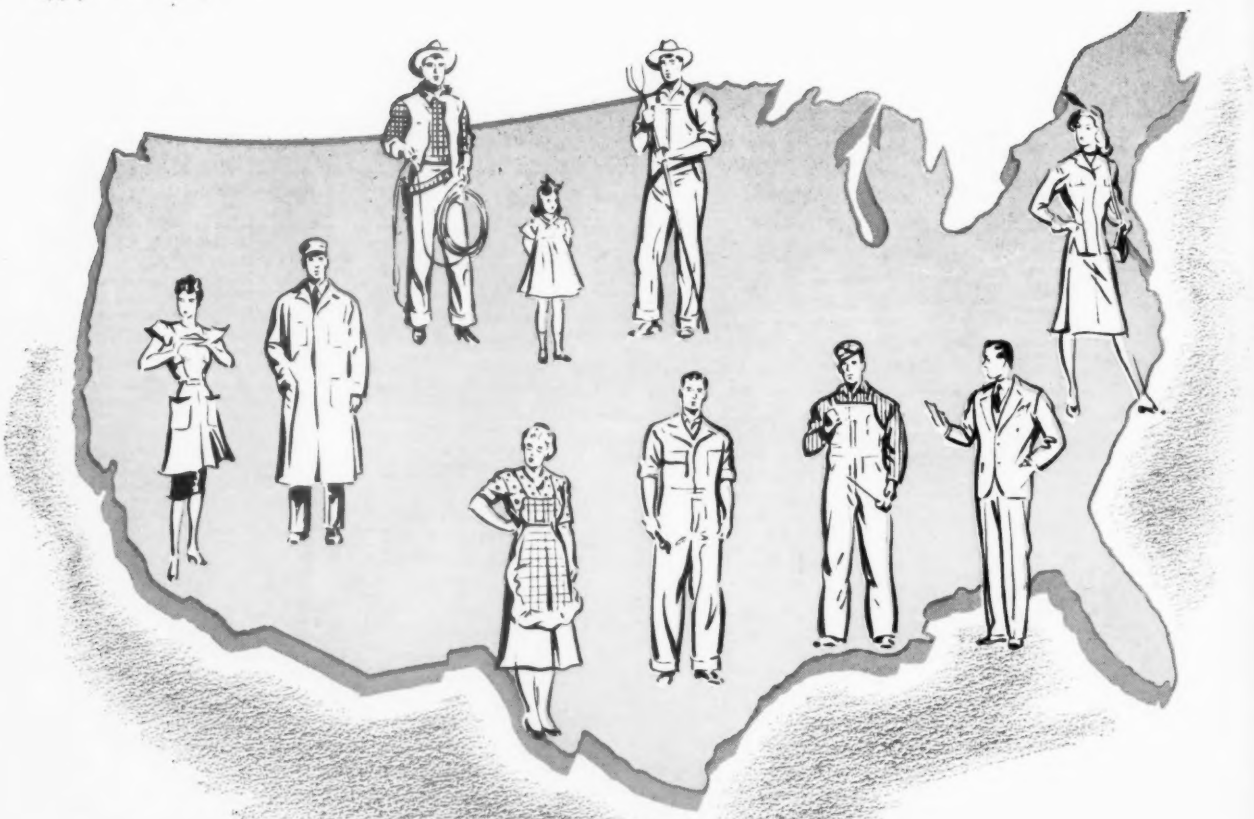
JAN -8 1946



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SMITHway Automatic Water Heaters . . . lined with *Permaglas* . . . give you the most dramatic, *new* sales appeal in the appliance business!

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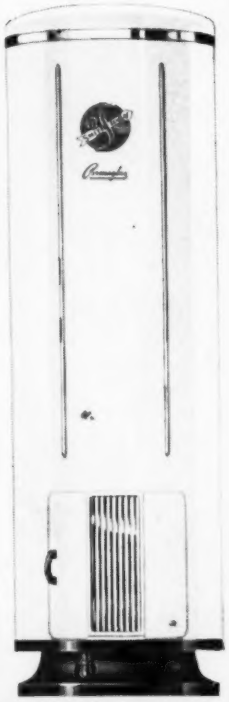

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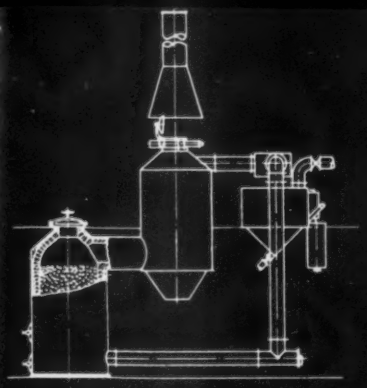
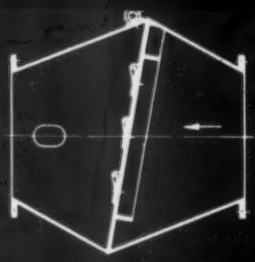
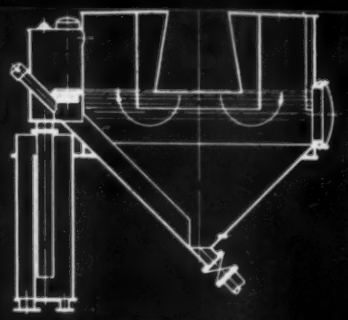


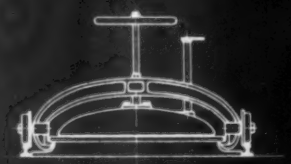
BLUE GAS MACHINE



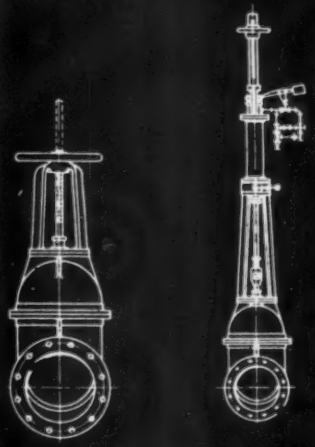
CHECK VALVE



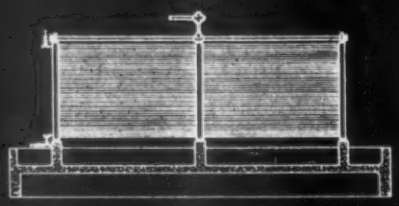
HYDRAULIC SEAL
OR
WASH BOX



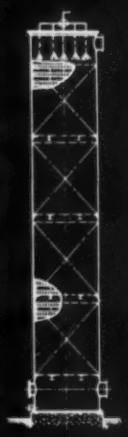
CHARGING DOOR



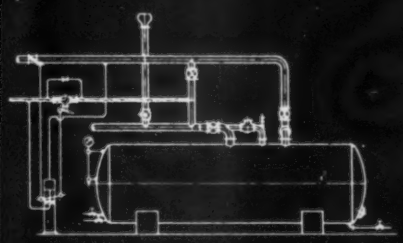
HAND OPER. HYDR. OPER.
GATE VALVES



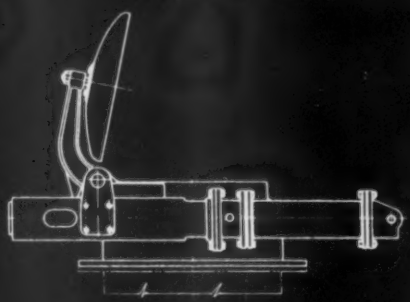
COOLING COIL



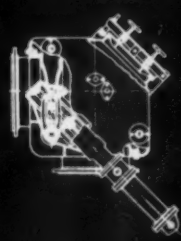
GAS SCRUBBER



STEAM ACCUMULATOR

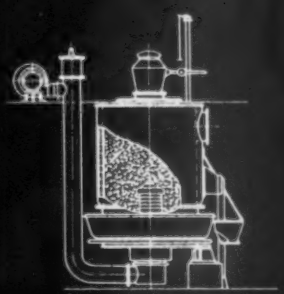


HYDRAULIC OPER.
STACK VALVE

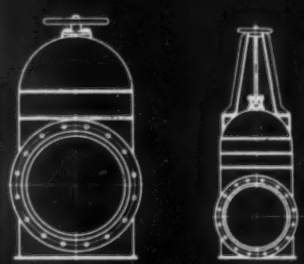


HYDRAULIC OPER.
REVERSING VALVE

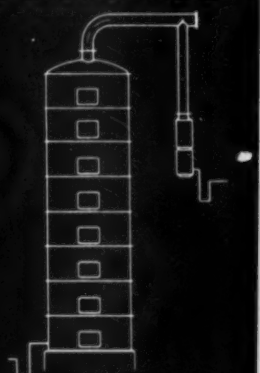
WASTE HEAT BOILER



GAS PRODUCER



BLAST GATES



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TELL YOUR CUSTOMERS ABOUT

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Now rolling off the line!
NEW SERVEL GAS REFRIGERATORS
Friends tell friends, WAIT!
Servel is Coming!
NEW GAS REFRIGERATORS NOW ROLLING OFF THE LINE
RELIABLE GAS COMPANY SERVICE
NO MOVING PARTS TO WEAR
If you're thinking about a new refrigerator
. . . you'll want to read this letter . . .
SERVEL

THE NEW GAS REFRIGERATORS

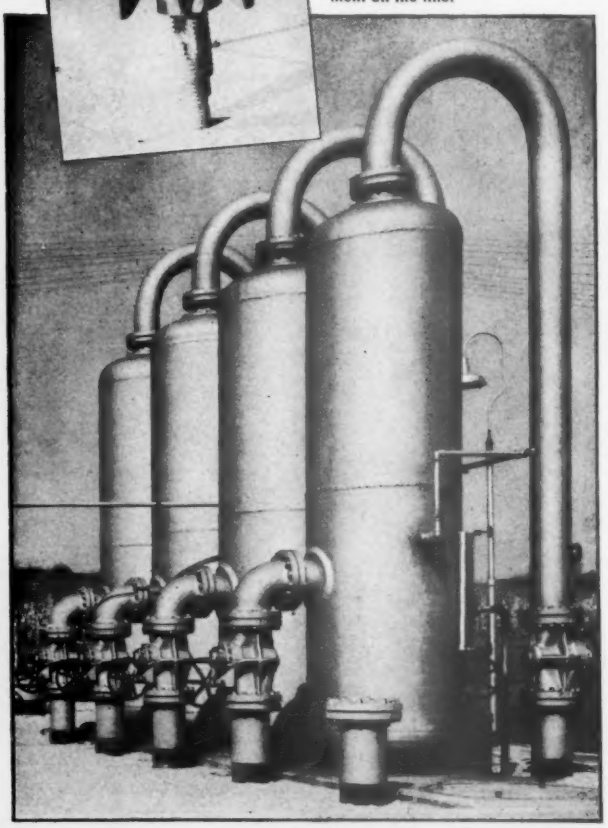
When you've got models to show and sell, these hard-hitting ads for your local papers will help bring folks in

Here are four ads that will help get your sales of gas refrigerators off to a flying start. Designed to sell the unique advantages of gas refrigeration, they dramatically tell Servel's story of silence and longer life. Put them to work for you. Use them to do a top-notch promotional job. They'll help build sales . . . boost your gas load. For complete details, write today to Servel, Inc., Evansville 20, Indiana.

GAS MAIN DUST
The largest grains shown are less than 1-5000 of an inch across—easily carried long distances in a gas line.

REGULATOR VALVE
cut and eroded by gas main dust—typical of damage done to equipment on the line.

Don't Be Fooled by Their Size!



These Blaw-Knox Gas Cleaners in a large mid-western line show a very small overall pressure loss by actual instrument test.

The biggest grains of GAS MAIN DUST are insignificantly small and harmless looking even under a powerful microscope. Twenty-five million of them are un-crowded on a single square inch. But they have sharp edges and teeth that chisel their way through valves, meters and compressors, right into the pocketbook of the gas distributor.

Clogged lines can be cured temporarily by blowing them out. But damaged valves, worn orifices, metering losses, poor regulation, excessive replacements and repairs, mounting service complaints and lost good will due to gas main dust can only be cured—permanently—by installation of Blaw-Knox Gas Cleaners at strategic points in the system.

Ask for Bulletin No. 1869

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BLAW-KNOX GAS CLEANERS

AMERICAN GAS JOURNAL, December, 1945. Vol. 163, No. 6. Published monthly by American Gas Journal, Inc., at 34 North Crystal St., East Stroudsburg, Pa. Executive and Editorial offices at 53 Park Place, New York 7, N. Y. Entered as second-class matter, October 7, 1928, at the post office at East Stroudsburg, Pa., under the Act of March 3, 1879. Printed in U. S. A.

How CRYSTOLON BRICK can help operators of Water Gas Plants

Case Histories from Our Files

"It is extremely doubtful", writes a superintendent, "whether our plant* could have continuously supplied gas through (wartime) peak operating periods had not the generator been lined with CRYSTOLON (SiC) brick - - - the brick are still in service after 22,362 hours of actual gas-making time - - - We believe that cleaning time for a gang of six men has been reduced 1½ hours per day. This saving by itself would pay for a CRYSTOLON lining during the course of one year's operation."

* Name of plant on request

NORTON COMPANY
WORCESTER 6, MASS.

Norton Refractories

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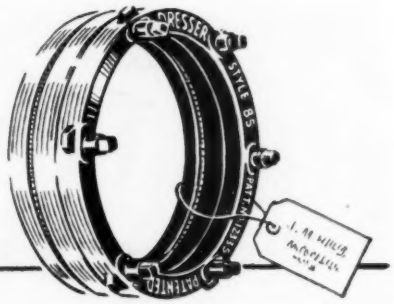
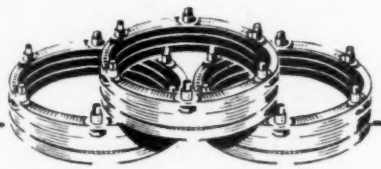
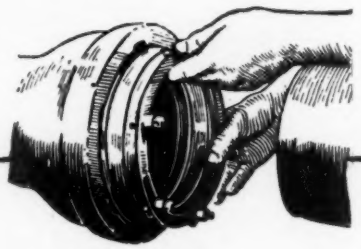


• It's stocked as ONE PART



• It's installed as ONE PART



...that's why the Dresser Bellmaster Joint saves time all around

The Bellmaster Joint, an exclusive Dresser development, is the only bell and spigot joint that is shipped and installed as a unit.

No handling of loose parts means reduced warehouse costs, and faster installation. After the pipeline is built, unused joints can be returned to stock easily.

The engineering back of the Bellmaster has given cast-iron pipe users what is even more important—unusual flexibility through the resilient gasket seal that assures permanent tightness and protects the line from leaks and breaks.

This joint is for new construction—it is not a repair device. When ordering the pipe, specify "Bellmaster pipe, for use with Dresser Bellmaster Joints". For more information, write for Catalog 441-A or send us your inquiry.

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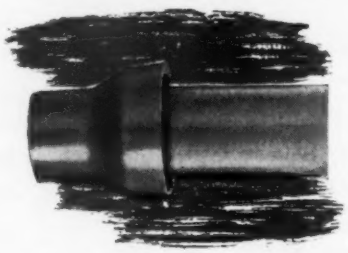

No exposed working parts . . . this rugged new joint, completely enclosed by the bell, affords virtual freedom from harmful corrosive attack. No parts protrude to chip and break off.

DRESSER
ONE OF THE DRESSER INDUSTRIES

BELLMASTER JOINTS
for Cast-Iron Pipe

VOLUME 163
NUMBER 6

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DECEMBER 1945

AMERICAN GAS JOURNAL

VOLUME 163 No. 6

The Relation of L. P. Gas to the Manufactured Gas Industry

By
Francis E. Drake
Utilities Consultant
Pacific Gas Corporation

A YEAR AGO I delivered a paper on Liquefied Petroleum Gases before a group of New England Gas Men. Since that time much ground, both theoretical and practical, has been covered. However, for those of you who are seriously contemplating the utilization of Liquefied Petroleum Gases, I urgently suggest that you review the various articles which have appeared from time to time, and especially those by Leon J. Willien, Acting Director of the Institute of Gas Technology, Chicago, and that excellent paper delivered before this Association by E. G. Boyer,* Manager, Gas Department, Philadelphia Electric Company, Philadelphia, Pa.

In a pamphlet entitled "Calculations used in studying Gas Plant Operations" Mr. Willien has written a summary of his conclusions concerning the utilization of various "gas formulae." In this study Mr. Willien explains the practical application of the Frank Knoy formula, a valuable addition to the theoretical solution of LP gas utilization in substitution or augmentation with water-coal or oil gases. The "C" curve, recently developed by Mr. Willien, further simplifies the Knoy's formula. Although this formula may not be infallible, it does remain a valuable tool in approaching the problem of substitute gases of all kinds.

Growth of the Industry

To appreciate the progress of LP Gases, one has only to review briefly the yearly reports of A. T. Coumbe of the Bureau of Mines, Washington, D. C. In 1922 the total sales of LP-Gases amounted to 222,641 gallons and until 1928 such sales were confined almost exclusively to the bottled gas business. In 1928 out of total LP-Gas sales of 4,522,899 gallons, gas manufacturing absorbed 1,500,000 gallons.

According to the U. S. Bureau of Mines the Manufactured Gas industry used:

	1943	1944
Propane	8,117,000 gals.	17,103,000 gals.
Butane	21,829,000 gals.	24,900,000 gals.
Mixture	7,532,000 gals.	5,765,000 gals.
Total LP Gas	37,478,000 gals.	47,768,000 gals.

Here is an increase in LP gas use by the manufactured gas industry of 27.4% for 1944 as compared to the preceding year and more than 3000% 1944 over 1928.

During 1944 the Liquified Petroleum Gas Sales in the country amounted to 1,061,809,000 gallons of which total the consumption was apportioned as follows:

Uses	Gallons
Domestic	438,552,000
Gas Manufacturing	47,768,000
Industrial Fuel	163,036,000
Synthetic Rubber Components	156,209,000
Chemical Manufacturing	151,985,000
Internal Combutsion Engine Fuel	101,760,000
All Other Uses	2,499,000
Total Sales	1,061,809,000

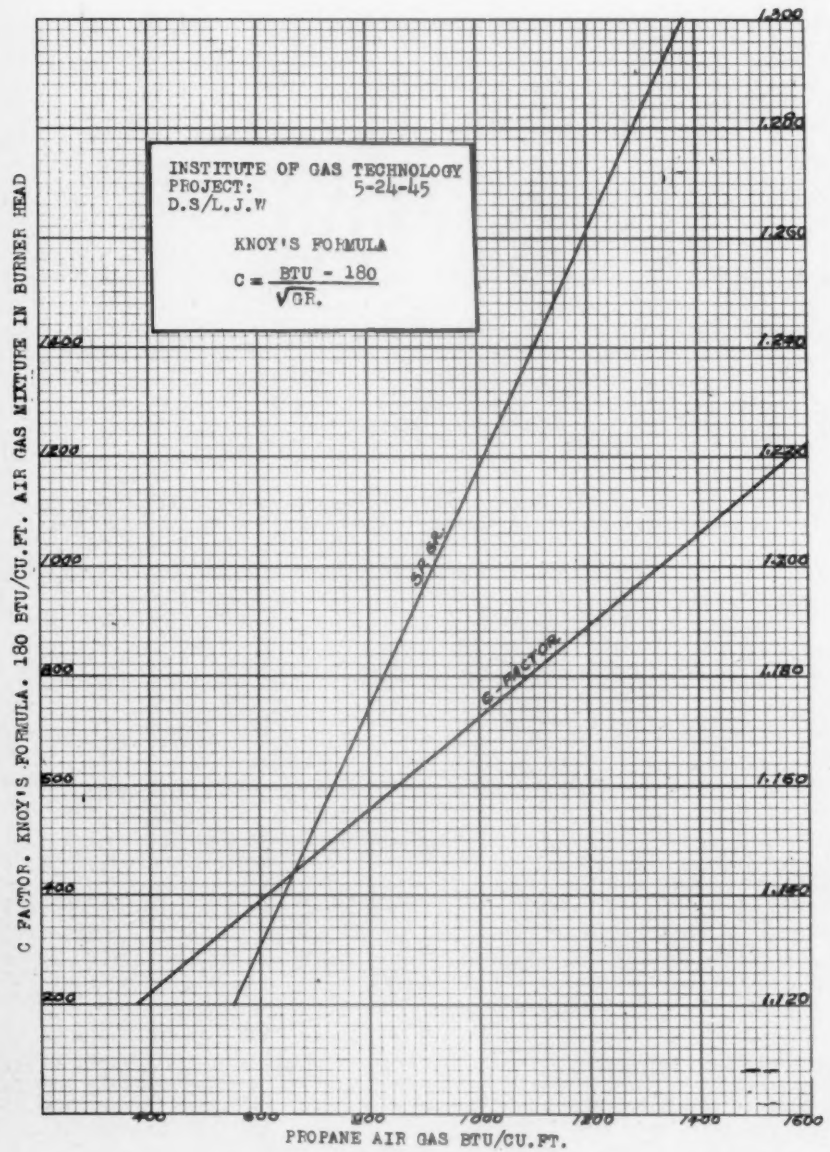
Note particularly the Domestic and Industrial Consumption: each has increased over a period of years at a considerable pace. Much of this increase has been caused by "beyond the mains" use. It seems to me that here is an opportunity for the Gas Man to step into an already widening breach, stop the infiltration which is now taking place and rescue the load for their own advantage.

The American Gas Association published the following reports regarding the distribution of LP Gases by the Manufactured Gas Industry for the year 1944:

"At the end of 1944, LP Gas was being delivered through mains to consumers in 224 communities in 32 states by 101 companies supplying 94,660 consumers." "Butane-Air Gas with heating value ranging from 520-1600 BTU per cu. ft. was supplied to 166 communities in 31 states. A mixture of undiluted butane and propane gas with a heating value of 2800-3000 BTU per cu. ft. was supplied to 18 communities in Arizona, California and New Mexico. Undiluted propane gas with a heating value of 2550 BTU per cu. ft. was supplied to 40 communities in Maryland, Minnesota, New Jersey, North Dakota, Virginia and Wisconsin."

The 1943 American Gas Association report showed LP Gas being sup-

* *See October issue of* ***this*** JOURNAL *page 21.—Ed.*



The Knoy formula was developed by Frank Knoy, combustion engineer with the Municipal Gas Plant at Long Beach, Cal. His work embraced production of a butane or propane air gas that can be substituted for natural gas. The theory of the formula is that gases which have the same C constant or factor are interchangeable.—Ed.

plied "through mains to 83,320 consumers by 101 companies in 219 communities in 32 states." Five additional towns therefore have changed over to LP Gas with an increase of 11,340 consumers. In this connection it must be remembered that during this period prohibitive restrictions were placed upon LP Gas expansion by the War Production Board.

Rural and Suburban

The period of utilization of Liquified Petroleum gases for small towns and cities and the coverage of rural or suburban communities adjacent to the larger centers, where pipe distribution of gases has not taken place, is definitely here. More and more the general public recognizes the increasing necessity and convenience of gas in their daily life and turn to that power which is wrapped up in each gallon of LP gas which they find is so easily released, controlled, and adapted to their every day requirements.

Here in these smaller communities and suburban areas is a potential load sadly neglected by the gas man and one which can be developed most profitably either in the bottled form or through pipes using the most adaptable BTU. During the war many housing projects the size of small towns have been built and supplied with LP gas vapor through main systems so small that average gas men would consider them absurd; but these miniatures have operated to the complete satisfaction of all concerned and with a gas rate comparable with many larger cities.

While commercial Propane usually has a 91,500 BTU value per gallon and Butane a 102,000 BTU value, a combination of the two can be and many times is arranged so that a gallon represents a "therm" or 100,000 BTU. This makes an easy and understandable value to talk to customers and some dealers with underground storage tanks and meters on the customer's premises, bill on a "therm" basis. I know of one company in Florida that has 800 satisfied customers on a meter basis with underground tanks. At some points there may be as many as half a dozen services leading from the underground tank to a meter at each individual home. This same company has over 2,000 customers scattered throughout a 20 mile radius of rural area. Tank wagons are on the road daily filling the underground containers on a regular schedule. The gross and net of this undertaking, which by the way comes under the jurisdiction of *no* Public Service Commission because it is not a Public Utility, would be the envy of many gas operators.

Markets

There is money in the bottled gas business and I believe we, in our industry, have missed a great market in not utilizing it more fully. It would be of particular advantage to us if the gas industry were more generally to use bottled gas for holding adjacent territory until there is enough business to justify the extension of mains. Bottled gas is a legitimate business and strictly within the jurisdiction of the gas man, so why turn it over to the itinerant vendor whose main object is to make a dollar and give but little in return. I do not condemn all miscellaneous bottled gas dealers, but there are still a few of the itinerants. I previously mentioned one dealer who had 2,000 scattered customers. This man is one of the exceptions—he is an excellent gas man and an asset to the industry. He gives service and annually spends over two dollars per customer for that alone. His rates are equitable; his public relations are cordial; and

Typical "Gasair" installation at Needles, Calif., consisting of two 5 M.C.F. and one 10 M.C.F. units.

he conducts an appliance business on a plane comparable with the best of utilities except that he makes a profit on his sales—not too many gas companies do that.

Besides retaining domestic customers, what about industries on the outskirts of our cities, or even on our mains where inadequate size main may restrict the use of our product. Why let that business go to oil or electricity where it may be irretrievably lost? Why not install a small gas plant on the premises of the industry and operate it as part of the local gas undertaking until such time as proper main extensions or corrections can be made? Such a plant can be installed and operated at a minimum of investment, and on a reasonable per M basis delivering any BTU desired from 528 up to that of straight vapor, 2,500 BTU in the case of Propane and 3,200 BTU with Butane.

Low Cost of Installation

So much for augmentation and retaining load by utilizing liquid petroleum gases in their handiest and most convenient form. Let us now consider the problem of the small gas company with high labor and fuel costs, or with an inadequate financial background because it just doesn't exist in that particular locality. Perhaps the plant is a relic dating back pre-World War I or even further, and sadly in need of repair or revamping. In many such cases a careful engineering survey and analysis will show that a complete changeover from present methods to an LP Gas-air plant can be made at a profit so that the utility can afford to abandon the old plant, charge it off over a period of years (if it has not already been amortized) and produce gas at a cost so that the company can use black ink to prepare the annual financial statement.

The investment required for such a changeover depends upon several variables:

Whether high or low pressure

Number of meters involved

Maximum daily output

Maximum hourly output

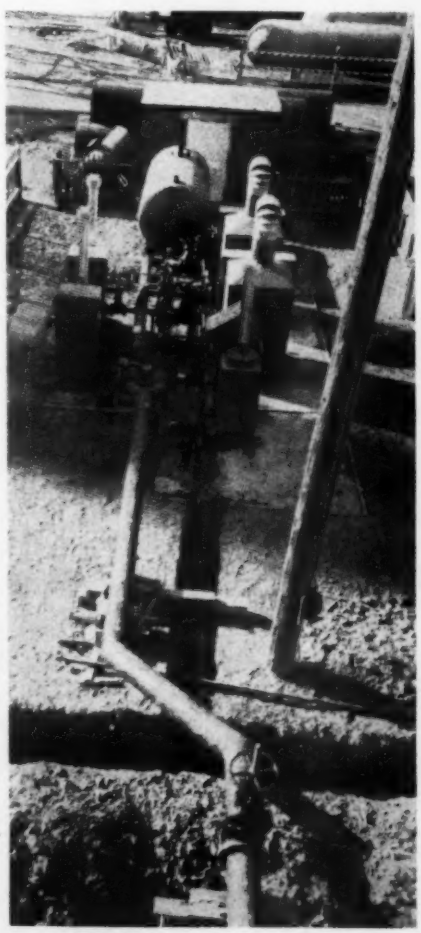
Character of Soil for Foundations

Many figures have been published on the subject of investment, but my experience has made me definitely shy on quoting estimates because of the imponderable variables involved in different localities. I believe it is enough to say that most companies up to 3,000 meters and sometimes even with a greater number can afford to change to LP gas. What the cost per M will be depends of course, upon the distance and freight rates from the nearest refinery producing propane. At the present time the refinery price runs from 2.5 to 2.75 cents per gallon to which must be added freight and tax. From 5 to 6 gallons propane per MCF of 540 BTU gas will be required, depending upon efficiencies of conversion.

There are several types of LP Gas systems: The more complicated require labor and power for operating as well as maintenance, while other systems require almost no labor or power and an insignificant amount of maintenance. The small plant operator should consider only those systems that require a minimum of labor and maintenance. Some plants operate automatically without attention day or night except to have someone look in occasionally to change charts. No plant however, should be operated continuously without monthly shutdowns and inspections to make sure no part is too worn to function properly.

Conversion Standards

Much discussion and difference of opinion is current as to proper conversion BTU when going to LP Gas-air. The argument ranges from the state standard, which in Massachusetts is 528 BTU up to 1,000 or possibly 1,600 BTU. Knoy's formula can be applied and the BTU most readily interchangeable with the local gas determined. This will give an indication and be a good guide but will not determine the whole story. The results so determined will be indicative, but they should be followed by tests wtih several types of gas appliance burners adjusted for the present gas and used for burning the substitute gas. The gas pressure at the burner should be the same with both gases. The character of the substitute gas burning in the test burner will determine its adaptability. There should be no flashback when shutting the burner off nor should there be a hard or a yellow tipped



This equipment installed at Geneva Steel Works near Provo, Utah, was used to preheat their coke ovens. The line in the foreground connects with a 36-inch main leading directly to the ovens. Gas-air capacity 180 M.C.F. per hour.

flame with the burner wide open—a soft flame however is better than a hard one. It is for that reason that I have usually found a 900 BTU gas to be a reasonably safe conversion BTU for most operations. It minimizes changeover conditions because of the relatively small amount of entrained air as compared to a gas of say 528 BTU. Changing to 528 BTU Propane-air gas requires 78.9% air, whereas with 900 BTU gas but 64% air is entrained. The adjustment of the burners normally found on appliances is facilitated by this smaller percentage of air. The conversion of appliances consists usually of enlarging burner ports, application of velocity reducing spuds and proper adjustment of air shutters. The adjustment of air shutters is more readily accomplished with 900 BTU gas than with 528 BTU.

The problem of increasing BTU's of course necessitates increasing rates if a company is to benefit by the savings effected from the change to LP Gas-air. This is not a serious matter if handled properly with the town fathers and the State Commission. If therm rates were previously in effect the matter would be simple and no change involved. However, with only the same percentage increase in rate as in BTU, the customer's monthly and annual bill should remain the same and, in many cases, be less because of increased efficiency of readjusted and cleaned appliances.

Effect on Distribution System

As to the effect upon the distribution system when converting to LP gas-air it depends upon the condition of the system at the time of changeover. Any system with excessive leakage will continue with the same leakage; so that condition should be remedied before conversion. Since LP gas is a dry gas, it should be fogged with oil if introduced into a cast iron system. With 4 gallons of good gas oil per million cubic feet send out introduced at the beginning of changeover no appreciable increase in leakage should be noticeable. Fogging must be introduced at the start and in ample quantity to effectively handle the leakage problem. It will also correct to a great extent any tendency for meter diaphragms to dry out. Here again, if the diaphragms are badly coated with tar, etc., and have been neglected, nothing outside of renewal will change the deterioration. If, however, the diaphragms are in reasonably good condition, the oil introduced as fog will keep them in that condition.

One great advantage of an LP gas-air system for New England is the ability, if one so desires, of doing away with a holder and its consequent heating and maintenance. Many people look askance at that statement, but there are many plants in the country making gas directly into the distribution system with no holder intervening—a big saving for the smaller gas companies.

Augmentation

Probably the field of augmentation has been more carefully studied and explored during the past few years than any other connected with LP gas. For years on the Pacific Coast LP Gas-air has been successfully used to augment as well as to supplement and substitute for natural gas. Many systems in that section have LP Gas-air plants at the city gates or at strategic points on the system so that if a pipe line breaks or the drag becomes too heavy the Propane-air plant cuts in automatically supplementing the failing or inadequate supply. It has been found that 1150-1250 BTU gas is most adaptable depending upon the chemical characteristics and BTU of the natural gas.

The Pacific Coast has also been in the forefront on augmentation. Portland, Oregon installed LP gas-air equipment several years ago. Their experience has not been too great because no protracted period of cold weather has been experienced since the installation was made. They have found, however, from experiments and operation that they can add 30% by volume of 1,000 BTU Butane-air gas to their 570 BTU oil gas which has a specific gravity of .42. Their mixed gas BTU specific gravity is about .66 and, of course, their BTU is likewise increased with the introduction of 30% of 1,000 BTU gas. At various distances from Portland, they have installed additional LP gas-air equipment (operated manually) which introduces 1,000 BTU gas into the system whenever necessary.

At Walla Walla, Washington, a Coal Gas Plant is producing 300 MCF per day. They generate 500 BTU gas with a specific gravity of .55. During peak seasons Butane-air gas up to 30% of BTU is introduced and no indication of excessive appliance trouble has been noted. The Butane-air gas mixes with their coal gas through the last purifier and holder.

A year and a half ago I made certain recommendations to a coal gas plant in one of the southern states. The normal output of this plant is 525 BTU and now they introduce Propane-air gas of 700 BTU into the holder. Normally they add under peak conditions 20-25% and find no visible increase in appliance complaints. With 30% of propane-air added they have slightly increased complaints, but they are not serious enough to offset the advantages.

Rochester Gas & Electric Corp. made a series of experimental laboratory tests a year ago and according to the resumé of the tests they found that the most suitable propane-air mixture to go with their oven gas-water gas mixture was 825 BTU. Using an 825 BTU Propane-air mixture and 20-30% of their city gas they found complete interchangeability. The BTU's of the mixture was increased to 768 BTU from a normal 540 BTU.

Much thought and attention is being given to this matter of augmentation and in another year we should have some most interesting results. Here in Boston a 10,000,000 cu. ft. per day plant will shortly be in operation. A plant of 12,000,000 cu. ft. will be in operation in another city in mid-December. Some of the ablest engineers and technicians in the country are associated with these two projects so before they are through they will have definitely determined just how far the LP gas industry can go towards solving our low investment peak load problem which is a vital adjunct to our future successful load building activities.

Underfiring Coke Ovens

In 1933 at Waukegan, Illinois, a single battery of Koppers Coke ovens built in 1928 was underfired for 10 months with 65% of the fuel gas 560 BTU Propane-air. This was brought about by the desire to slow down the ovens and reduce the amount of coke made. (E. D. Van Mauer AGA 1933)

At Geneva, Utah, in 1943 a battery of 63 Koppers Ovens was built for the Geneva Steel Works division of the Columbia Steel. A method of

		Pressure	
	From Gas Plant	Initial	Terminal
Vancouver	19.5 miles	25 psi	10 psi
Salem	62.2 "	35 psi	10 psi
Granger	89.6 "	50 psi	10 psi

preheating and firing up was needed so Propane-air of 875 BTU was resorted to with success. A *Gasair* plant of 2-50 MCF/Hr. Units, 3-10 MCF/Hr. Units and 5-10 MCF/Hr. auxiliary tubes were set up and put into operation from November 5 until the first charge was drawn on December 13. The installation gave the required gas capacity of 180 MCF per hour and was the means of evenly heating up the ovens with the greatest speed consistent with safety. This was not the only oven plant heated up this way; the "Kaiser" plant at Fontana, California was the first to prove the practicability of Propane-air 875 BTU operation.

Mr. Boyer in his paper told you of the success with refinery gas at the Chester, Pa., ovens of the Philadelphia Electric Company. Although Refinery Gas is not identical with Propane-air, it has similar characteristics, therefore behaves much the same. At this plant 740 BTU gas was used for underfiring and an appreciable saving was effected according to a report by E. E. Witham and J. H. Long in 1943.

These instances are cited just to illustrate the versatility of LP gas.

Reforming Butane

Over a period of years more or less successful experiments on the reforming of Butane in Water Gas sets have been under way. Louisville, Kentucky I believe ran and produced quite successful results. The United Public Utilities Corporation in 1940 reformed Butane through a 6′-0″ water gas set producing a peak shaving gas of 1,000 BTU for mixing with natural gas. Their operation was reported to me by their President as having been wholly successful. The water gas set capacity remained about the same as with oil. The reformed Butane gas mixed successfully with the natural gas causing no appliance complaints. Ten gallons Butane/MCF of 1,000 BTU gas was required with the Butane introduced at the top of the carbureter using sweep steam over the top of the fuel bed in the generator.

Waterbury, Connecticut has for a number of years experimented with reforming LP gas.

The Outlook

In closing I realize that there must be one question in everyone's mind—What is the future of LP gas? What will the price be? Will it be available in quantities?

4—50 M.C.F. "Gasair" units at Portland, Ore. Used for augmentation of 570 B.T.U. Oil Gas, 50% hydrogen, .42 gravity.

The statistics quoted at the beginning of this talk I believe, answer part of the question. Someone must eventually take over a big portion of the synthetic rubber load when raw rubber is again available. The refineries today are in many instances not reclaiming the Propane that they might if there was sufficient demand, also by the addition of a small section of tower to their stills, they tell me that the production of propane can be greatly increased.

As to raw material prices I think we all expect increases in the future but my belief is that, as has been the industry's previous experience, any change in one raw material up or down reflects a corresponding change in related materials.

To recapitulate—The past is a record book open for all to read.

The present has produced phenomenal strides forward.

As to the future, it is up to you gentlemen to realize the potential power of these liquids. Remember that in spite of the necessary and onerous restrictions placed upon the LP Industry by the War Production Board, as well as the almost 100% utilization of Butane by the Synthetic Rubber Industry that the progress made in 1944 was remarkable. This to my mind foreshadows a great future which, if not grasped by the Manufactured Gas Industry, will be capitalized by others more foresighted.

Liquefied Petroleum Gases have earned a place in the Utility Industry, the future of which will belong to those who can and will adapt their methods—technical and sales—to the needs and desires of the consuming public. Perseverance never was beaten and ultimately the hurdles presented by our fast growing peak load will, I am sure, be surmounted through successful coordination of gas engineering and sales developments.

Presented at the Gas Company Managers Conference of New England Gas Association, Boston June 29th.

L.P. Gases in Water Gas Production

By
Kurt Richter,

Assistant Engineer
The Connecticut Light & Power Company
Waterbury, Connecticut

THE CRACKING of propane and butane has been studied and carried out by many laboratory workers long before the gas industry began to avail itself of these gases. Similar to the pyrolysis of natural gas, the cracking of propane and butane is being applied today to a great many purposes other than supplying city gas. The chemical industry finds it a very convenient and satisfactory means for the preparation of intermediate products.

Its specific application to the water gas process came in the wake of a search for a simple and economical method of increasing set capacity with existing generating equipment. The process is similar to that of reforming oil gas in the generator fire. Oil gases, incidentally or intentionally trapped in carburetor and super-

heater of a full backrun set at the end of the uprun are carried along with the backrun steam and swept through the generator fire. They are being cracked, resulting in a slight increase in set capacity, lower generator fuel and higher oil figures. In this respect the L.P. process differs from gas oil reforming only in the method of handling the material up to the point of admission into the set.

Liquid petroleum gases may be introduced into the generator either as vapors or liquids. If introduced in vapor form, the latent heat of evaporation must be supplied by steam or some other source of heat in a heat exchanger. This method affords the most accurate control of input.

In our operations, liquid propane or butane is introduced and allowed to expand directly into the generator. The latent heat of vaporization is supplied by the downsteam, the heat stored in the structures surrounding the point of admission and by radiation from the generator fire. It is obvious that this method allows only a limited input, and due to the rapid expansion of the liquid into vapors, freezing in the lines may occur. In order to prevent vaporization of the liquid gases before their admission into the generator, they must be kept under pressure well above their vapor pressure. We are producing this pressure by admitting gas from our H.P. system into the L.P. gas storage tank.

With the downsteam, the propane or butane passes through the generator fire where it is partly decomposed resulting in down-run gases containing illuminants, ethane, methane, aromatics, olefine and up to 65% hydrogen, the degree of decomposition depending upon the temperature of the generator fire, time of contact and, apparently, upon the downsteam rate. We are getting better results with the downsteam rate cut about 30%.

The mechanism of pyrolysis has been interpreted in various ways. The most convincing theory uses free radicals. Obviously the molecule

H H H H

H-C-C-C-C-H is being cracked at

H H H H

each link, several splits occurring simultaneously. Then other subsequent reactions follow and the result is a complicated system of carbon, hydrogen, ethane, methane, olefins and aromatics. The liberated carbon reacts with steam chiefly by the water gas reaction:

$C + H_2O \rightarrow CO + H_2$ and a certain amount of CO_2 is formed according to

$C + 2H_2O \rightarrow CO_2 + 2H_2$

In our operations, practically all of the carbon dropping out must have been consumed in this manner because we have never had any evidence of lamp black deposits. It must be assumed that they will appear with high input rates.

There is also no evidence that naphthalene is being made in any appreciable quantity. Our limited operations have indicated no change in quantity or quality of the tar produced but it must be assumed that the tar made per MCF will decrease with the decrease in gas oil used and that the free carbon content of the tar will increase with higher L.P. gas input rates.

The L.P. gas for supplementary enrichment may be admitted at any other point between the set and the station meter. We prefer our method for reason of simplicity and convenience in that the flow of propane or butane can be controlled at one point. Utilizing the generator oil cam of a U.G.I. automatic control, the L.P. gas is turned on by a Schade valve during the up-run and turned off shortly before the end of the down-run. As the set goes on the down run, the flow of the L.P. gas is automatically reversed.

The equipment required for our method of operation consists of a tank-car unloading station with a compressor or Brunner L.P. gas Unit for the transfer of the L.P. gas from tank car to storage tank and from storage tank to generator, two 25000 gallon storage tanks, a 2" pipe line to the operating floor, a L.P. gas meter and control valves. If the L.P. gas for supplementary enrichment is to be admitted at any other point of the plant, a heat exchanger for vaporization and a calori-mixer become necessary.

ANALYSIS OF THE DOWN RUN GASES

	Without L.P. Cases	With Propane	With Butane
CO_2	5.60%	2.3 %	1.80%
Ill.	.00	1.00	2.00
O_2	.60	.70	.60
CO	38.40	23.20	24.20
H_2	49.00	59.20	61.50
CH_4	.10	10.00	5.50
C_2H_6	.00	.80	.50
N	6.30	2.80	3.90
	100.00%	100.00%	100.00%
B.T.U. Calc.	265	407	400
Sp. Gravity	.520	.426	.400

These gases were obtained with a propane or butane input of about one gallon per MCF. With this amount the generator fuel dropped about four pounds and the gas oil .40 gallons per MCF. No change was made to the three-minute cycle. With our present handling equipment about 1.5 gallons of L.P. gas per MCF can be admitted during the down run, resulting in an increase in set capacity of 13% to 18%. Under these operating conditions, the specific gravity of the finished gas drops from a normal of .6800 to approximately .6200.

For a further increase in set capacity, 2-4% blow-run may be carried and the combined effect of blow-run and reforming is an increase in set capacity from 24 to 36%. Specific gravity and B.T.U. standard are maintained without difficulty. The gravity raising effect of the blow run is offset by the low gravity of the down-run gases. The low B.T.U. content of the blow run gases is made up by the higher B.T.U. content of the down-run gases and by the addition of L.P. gas during the up run.

The L.P. gas added for supplementary enrichment is admitted at the same point as for reforming, but instead of passing through the fire, passes through carburetor and superheater with the up run gases, where it is, probably, broken down primarily into ethane and methane.

At prewar prices this peak load gas is produced at a premium of about 1.50 cents per MCF. During the past summer, butane was available in the east at 1.50 cents less than a 38° Be gas oil. The oil being of poor quality, we were able to effect a saving of 1.70 cents per MCF by using .93 gallons of butane per MCF for both reforming and enriching, during a continuous two months run.

With the amounts of butane and propane we have used in this manner, there has been no apparent change in the flame characteristics of either blue flame or yellow flame burners nor have we had complaints from our industrial customers who are consuming 40% of our entire output in a multitude of industrial applications.

Presented at N.E.G.A. Operating Division's Meeting, Hotel Statler, Boston, Mass., October 17, 1945.

Magic Chef

design contest seeks to solidify future position of gas cooking in the modern home

The Magic Chef gas range design contest, which was announced last month in leading magazines and newspapers, is sponsored by ARCHITECTURAL FORUM, and offers $18,000 in cash prizes. The contest is unique in that it represents the first time a manufacturer has offered the ultimate consumer, and especially the professional designing industry, an opportunity to submit concrete, over-all suggestions covering future design of a home appliance.

In 1929, Magic Chef enlisted the services of New York School of Fine and Applied Art for new ideas on gas range design. The result was the introduction, during 1930, of the first Magic Chef range which revolutionized all gas range design throughout the industry. This revolution elevated the gas range to a new high plane and served to focus national attention on modern gas cookery. It is hoped the current Magic Chef contest will again focus new national attention on gas and gas cooking, and call to the attention of the public the importance of gas in a future full of promise for a better way of living.

AMERICAN STOVE COMPANY
4301 Perkins Ave. • Cleveland, Ohio
NEW YORK • ATLANTA • PHILADELPHIA • CHICAGO
CLEVELAND • ST. LOUIS • LOS ANGELES

The Symbol of "Certified Performance"

Magic Chef

RED WHEEL GAS RANGES AND HEAVY DUTY GAS COOKING EQUIPMENT

LOOK FOR THE FAMOUS RED WHEEL

Appliance Sales Plan of Michigan Consolidated Gas Co.

By

M. W. Bowman

THE post-war appliance merchandising plans of the Michigan Consolidated Gas Co., Detroit, Mich., combine the best features of proven pre-war practice with some new, streamlined, practical innovations, said N. E. Loomis, Merchandise Sales Manager.

The old and proven practice will be the continuation and strengthening of the common bond of interest between the company and appliance retailers the territory over. Two noteworthy departures mark the innovations. First, the company will build modern post-war kitchens in each of their nine branch offices as well as on the display floor of the Main office where gas-fired appliances will be on constant display against a modern, colorful background. Second, College girls with Home Economics degrees will be employed on duty in these kitchens to demonstrate to the public all the up-to-date arts of home-making, chiefly the Culinary arts.

This two-way program is carefully calculated to accelerate the sale of gas-fired appliances thereby increasing the use of gas as a fuel.

Cooperation with Stores

For a number of years the Company has considered that the most effective, and at the same time, most economical method of selling appliances was through a close and understanding cooperation with all stores selling home appliances in the area. These stores are of all types including Appliance stores; Department stores; Plumbing shops: Heating Contractors; Furniture stores, etc. The constant flow of customers to these outlets day by day furnishes the company with a steady uninterrupted association with the great mass of Detroit shoppers. At present fully 85% of the sale of gas appliances sold in Detroit are sold through these agencies.

Sales under this plan have increased steadily year by year. In addition, there are other features that the company finds gratifying. The expense of training and maintaining a large group of salesmen is eliminated. No sizeable supervisory staff is necessary. Quite apart from these advantages is the fact that the stores selling appliances through the territory regard the company in a much kinder light than they would otherwise since they themselves till the Appliance sales field and reap the golden harvest.

Accomplish Numerous Contacts

The fact is not overlooked that stores selling appliances afford a more numerous contact with Detroit's shoppers than would be afforded to the company even though a thousand salesmen were employed. The Michigan Consolidated is also convinced that the prospect coming into a store of his or her own accord is a more likely buyer than the person cold-canvassed.

Through this procedure the Gas company has guaranteed itself Dealer Good-will, a very important matter since most dealers and stores sell appliances that use other than gas as a fuel. They are almost sure that any attempt on their part to monopolize gas appliance sales would only result in dealers and stores pushing other types of appliances.

N. E. LOOMIS
Merchandise Sales Mgr.
Mich. Consolidated Gas Co.
Detroit, Mich.

In its dealings with stores and dealers the Gas company might be said to lean backward in an attempt to be more than fair. They do not subsidize these retail outlets in any manner since they believe that the self-sufficient retailer is the best type of retailer.

Favor the Dealers

But they do give the dealer a very fair consideration. It occasionally happens, for instance, that the appliance customer has consulted both the dealers and the company regarding the purchase of gas-fired equipment. In this case the company withdraws, leaving the sale entirely to the store. However, should the dealer be pushing other than a gas appliance the company competes strongly.

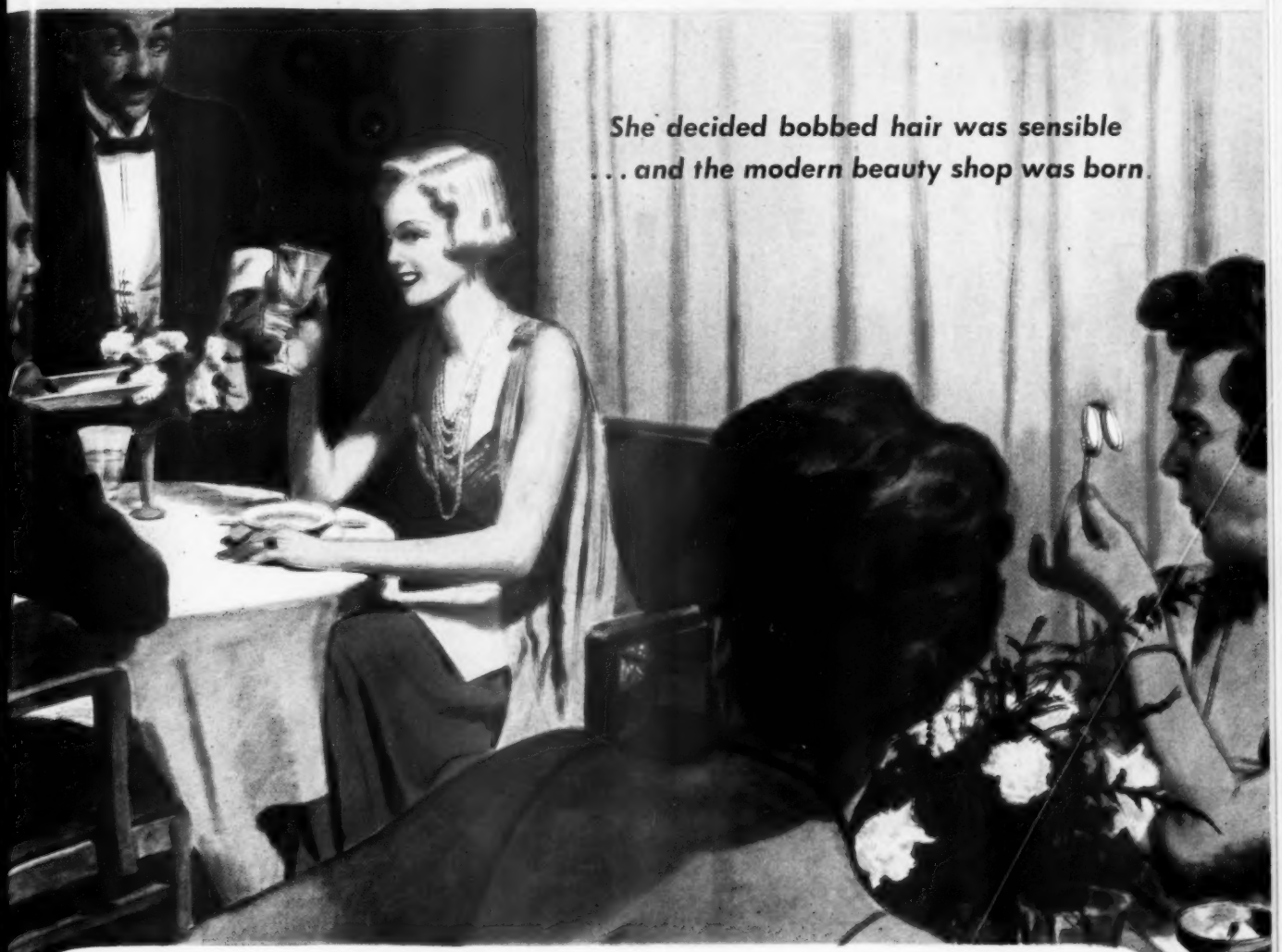
Further dealer approval is gained through the servicing operation of domestic equipment by the company. This is a free service to the customer, of course, and consists of appliance adjustments where no parts replacement is necessary. It does not matter whether the appliance was bought through the company or a dealer. In either case the company willingly assumes the responsibility of rendering free service.

Replacement parts can mean a nice profit for the Dealer. Where new parts are needed the consumer is advised to consult the dealer from whom the purchase was made, if possible, for the replacement part. The replacement part sale is made by them.

Advertising Policy

The company is a heavy user of advertising and they spread it out through all media; the three great Dailies; Neighborhood newspapers; Radio stations; Billboards; Streetcar and Bus cards. Since the company is primarily interested in the sale of gas and promotes appliance selling in only so far as this result may be achieved advertising promotes the use of Gas as a fuel rather than applying directly to the sale of appliances.

What woman *wills*... will be



She decided bobbed hair was sensible ... and the modern beauty shop was born.

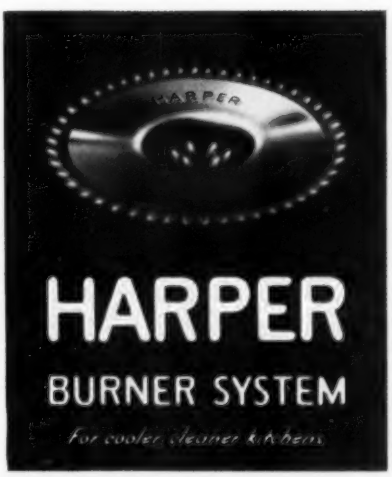
Now she has decided that here is the most sensible top burner

BOBBED HAIR came to stay when women decreed it. By the same token, the Harper Burner System is here to stay because women have learned its advantages over ordinary burners.

The fundamental advantage is that Harper burners perform *double duty*. Each burner is actually 2 burners in 1 . . . a burner within a burner . . . both operated and controlled by a single handle. The small, inner *cooking* burner can be used independently of the outer *starting* burner . . . a vital advantage possessed by no other top burner. It insures easy, accurate control: just the right heat for every type of top burner cooking.

Because it gives better cooking results . . . because it makes possible cooler, cleaner kitchens . . . the Harper Burner System aids the current AGA campaign of appliance improvement and promotion to enhance the position of gas as the ideal cooking fuel.

Copr. 1945, Harper-Wyman Co.



On next page
WHAT USERS SAY

She likes Keep Warm" heat feature of the

HARPER BURNER SYSTEM

"I HAVE FOUND that the Harper COOKING BURNER when turned to its lowest point, is a perfect 'keep warm' heat. It is easy to keep foods warm after they have cooked, so that everything is hot for serving when the last dish is ready."

MRS. CLAYTON H. HAUSFELD
2711 E. 3rd St.
Dayton, Ohio

The Harper Burner System operates on the unique principle of "2 burners in 1"... a STARTING BURNER plus a small, economical COOKING BURNER, both controlled by the same handle. It is subject to finer gradations of low heats—greater control and economy—than any other top burner.

No so-called "simmer" burner can match this performance

WHEN TURNED LOW, the Harper COOKING BURNER will keep the contents of a covered vessel at the ideal serving temperature of about 150 degrees.

Thus, the *order* in which various items are put on the fire ceases to be a problem. All foods can be started at the same time. As each dish is cooked, the COOKING BURNER is simply turned down to "Keep Warm" heat, and the food stays at the correct serving temperature. No danger of food being ruined by over-cooking... trouble is avoided... time saved.

This is just one of the many advantages users of the Harper Burner System have learned... and appreciate. As a matter of fact, 98% of the women interviewed in a recent survey said that they wanted this type of top burner on their postwar ranges.

NOTE: A *new* and *improved* Harper Burner System is now available for range manufacturers who are producing de luxe ranges. Harper-Wyman Company, 8562 Vincennes Avenue, Chicago 20, Ill.

HARPER BURNER SYSTEM

"HOLDS THE LINES FOR GAS"

HARPER BURNER SYSTEM

—One of the standards of top burner performance under Cp

Demonstrations

Pre-war and occasionally, the company put on cooking demonstrations that were sufficiently well attended on two occasions to completely fill Detroit's, and incidentally, Michigan's largest theatre. Post-war they plan to make these functions a more common occurrence although they may not be as impressive in any one-time attendance. The Home Service personnel staff conduct these demonstrations and no attempt is made by them to sell appliances nor do they at any time sell appliances.

Obliquely, and in the performance of their duties, this staff will encourage the increasing use of gas as a fuel. Chiefly, they will function as experts in the culinary arts and will demonstrate before Home and School clubs; Parents and teachers Associations; Church clubs and even informal home gatherings. New recipes are developed in this department, tested to the point of perfection and then have all steps demonstrated in the preparation of the food in the full view of the assemblage. It is anticipated that these demonstrations will be fairly perpetual affairs.

Model Kitchens

Another outlet for the activities of this department will be the model kitchens that the company will have in each of their nine branch offices in Detroit. During "discount" days when both branch offices and main office are crowded with bill-paying customers these Home Economic experts or "Home Service" girls will be present. They will preside over tables displaying seasonal cookery, such as Canned goods during the canning season or Christmas edibles during the Yuletide. They will pass out tried and proven recipes to interested customers. They will engage the waiting customer in friendly, casual chat, not a sales talk.

While cooking and baking is the chief metier of their job with the gas company these girls will, on being asked, give their trained and expert opinion on any phase of homemaking or housekeeping to the interested customer. Such a broad and diversified field as from the best way to make doughnuts to the color scheme of the front bedroom will fall within the province of these girls.

The modern kitchens will afford a material means of transmuting this spoken advice from the intangibilities of the spoken word to colorful realities that the customer will be able to see, feel and appreciate through the exercise of their own senses.

The Salesmen that the company employs in their domestic division are a trained group of experts. They are familiar with the field of domestic gas usage and domestic appliances. Salesmen are carefully chosen for good health, appearance, education, honesty, industry, and application. They must be able to reason logically and tell a clear, emphatic story. Initially, they master the sales course of the A.G.A.

"But," said Mr. Loomis, "their training is a continuing process. They and we are never through learning."

Sales Meetings

General sales meetings are held every morning, half an hour duration. The sales personnel break into groups of seven or eight and informal discussion under the guidance of a group leader takes place which deals with every facet of every problem that befalls the salesman. A training program is available for all dealer personnel who wish to take advantage of it including dealer Installation and Service men. Manufacturers agents are welcome also. The company encourages everyone in the appliance field to become well acquainted with the possibilities of gas as a fuel.

The theoretical training that the company salesman receives is supplemented by a thorough grounding in mechanics gained from illustrated lectures, trips through the meter shops, trips through manufacturing plants making gas appliances and equipment, and calls on the domestic customer in the company of the service man. Company salesmen get a broad understanding of all operations pertinent to their field.

The close cooperation between retail appliance dealer and company that distinguishes the Michigan Consolidated Gas company, is further emphasized by the internal cooperation marking the various departments of the company itself. We speak particularly of the cooperation existing between the shop service division under Mr. Charles Ruff and the Sales division.

Service Calls

At present the company services around 500,000 meters in the Detroit area. Consequently, service calls run into the thousands weekly, where the service man not only sees the condition of the domestic equipment but also listens to the housewife's comments, grievances, yearnings or all three.

The company service man is there to service equipment and not to act as a salesman. Nor does he. But when he gets back to the shop he fills in a little card with a few pertinent notations which is passed onto Charles Ruff. Eventually the card reaches Sales. A day or two later a company salesman calls around and propounds the advantages of a new Range, Heater or Refrigerator.

The company sales department averages around 25,000 such leads per year. A good percentage develop into sales. The service man handing in the lead is not forgotten. He receives a bonus.

Appliance and gas selling plans of the Detroit Michigan Consolidated Gas company is founded on mutual cooperation, understanding and goodwill built up carefully throughout the years. Incidentally, dealers and stores may avail themselves of the services of the "Home Service" staff. But the company seems to exert very little actual sales pressure, comparatively speaking, and yet they occupy an enviable position amongst the Utilities.

F.P.C. Orders Reduction in Wholesale Rates

The Federal Power Commission on November 21st, announced its order and opinion directing Mississippi River Fuel Corporation to reduce its wholesale rates for natural gas sold in interstate commerce to utility customers for resale for ultimate public consumption by not less than $945,613 a year or by about 27 percent. The Commission order allocates the company's costs between its regulated sales to utilities and non-regulated sales for industrial use only and fixes the fair rate of return for the company's regulated sales at 6 percent.

The Mississippi company is ordered to file within 30 days rate schedules which shall reflect the rate reduction. Such rate schedules when submitted in a form satisfactory to the Commisison shall be effective as to all bills based on meter readings made after January 14, 1946. The order further states that when the Commission's order of April 27, 1943, reducing the rates of Interstate Natural Gas Company by $301,329 is validated by the courts, that at such time Mississippi shall pass on the proper portion of that reduction by reducing its rates to utility customers.

Mississippi River Fuel Corporation's principal market is St. Louis but the company has seven utility customers in Arkansas, Missouri and Illinois which will benefit by the reductions ordered. The order establishes as reasonable a commodity rate of 13c per Mcf for firm gas sales to the utility customers, aggregate demand charges of $764,269 based on 1943 billing demands and 14c per Mcf for interruptible sales to utilities for resale.

3 questions* whose answers tell... why RUUD-MONEL is the line to sell!

* We asked these questions as part of a nation-wide poll of RUUD-MONEL owners.

1. Would you recommend RUUD-MONEL to your friends?

99.1% said "YES"!

2. Have you recommended RUUD-MONEL to your friends?

89.1% said "YES"!

3. Have you ever demonstrated to your friends how RUUD-MONEL operates?

55.4% said "YES"!

You can hardly over-estimate the value of a satisfied customer.

He spends time selling his friends on the convenience and economy of *GAS*—the wonder fuel.

He does, at least, when he owns a RUUD Automatic Gas Water Heater with Monel* Tank. Our recently completed poll of RUUD-MONEL owners proves that.

Study those questions and answers a moment. You'll see in them a clean-cut path to load-building for the gas companies who handle the *new* Ruud Water Heater with its long-lived, rustfree Monel Tank.

You'll see, first of all, that RUUD-MONEL owners are thoroughly satisfied with the perfect hot water service they enjoy. And that practically 9 out of every 10 tell their friends about it... and thus smooth the way to new, easy appliance sales that boost your domestic load. Still better, many customers go a step further ...they actually demonstrate the water heater for you!

But That's Not All!

In addition to the active and enthusiastic support of folks who already own these remarkably efficient water heaters, Ruud backs you up with attention-getting national advertising and hard-hitting promotion.

Resolve now to handle RUUD-MONEL when this feature-studded line is again in production. There's a model to meet every household need... and many water heaters for commercial purposes. For full information about RUUD-MONEL—the truly modern automatic water heater built exclusively for use with *GAS*, the truly modern fuel—write today.

*Reg. U. S. Pat. Off.

RUUD MANUFACTURING COMPANY
PITTSBURGH 1, PA.

RUUD GAS MONEL

... perfect partners for

Automatic Hot Water Service

Methods for Maintaining Good Customer Relations

By

Fred A. Herr

THAT THE POSTWAR years will find the gas companies of the United States receiving stronger competition than ever from the electric utilities for the domestic load is conceded by all gas industry leaders.

Also conceded are the additional facts that company-customer relations represent a factor that will, to a large extent, affect the volume of the domestic gas load; and that the firms which strove to maintain cordial customer relations in the face of wartime difficulties are—now that "postwar" is an actuality—in a definitely more favorable position to meet competition than the gas firms that neglected this factor during the war.

The policies and experiences of the Southern California Gas Co., Los Angeles, in this phase of operations contain elements of merit that make them worth consideration.

Despite man- and woman-power shortages and other wartime difficulties, the Southern California Gas Co., throughout the war years, adhered firmly to the policy that "The Customer is Right—War or No War."

Victor Pack, superintendent of the Southern California Gas Co.'s Telephone Service Bureau, informed *American Gas Journal's* representative that the firm was able to maintain polite company-customer relations during the war and to key its training of commercial department personnel along lines of diplomacy and tactful handling.

Training Programs Revamped

This utility began to be affected by the personnel shortage when quite a few of its employees quit to go to work in shipbuilding and airplane plants, some attracted by higher wages, others intrigued by the "romance" or "thrill" of working in a war plant.

As a result of the unsettled conditions which prevailed during the war and immediately after its close, the Southern California Gas Co.'s program for training telephone service bureau personnel has been completely revamped. One reason for revamping it was the need for getting workers into the jobs more quickly, Mr. Pack explained.

The most important changes in the company's program for training telephone service bureau employees were occasioned by the shortage of gas company service men. It became necessary, according to Mr. Pack, to *sell* the customers on a deferred type of service by convincing them of the need for accepting service in a week instead of the two or three days which was average before the war.

To this end, the training program has been revamped to teach telephone service bureau girls how to help the customer (over the telephone) to operate and adjust her own appli-

MONITOR RECORD - TELEHPHONE SERVICE BUREAU

OPERATOR M. Dow DATE 8/4/45 TYPE OF CALL Adjust range

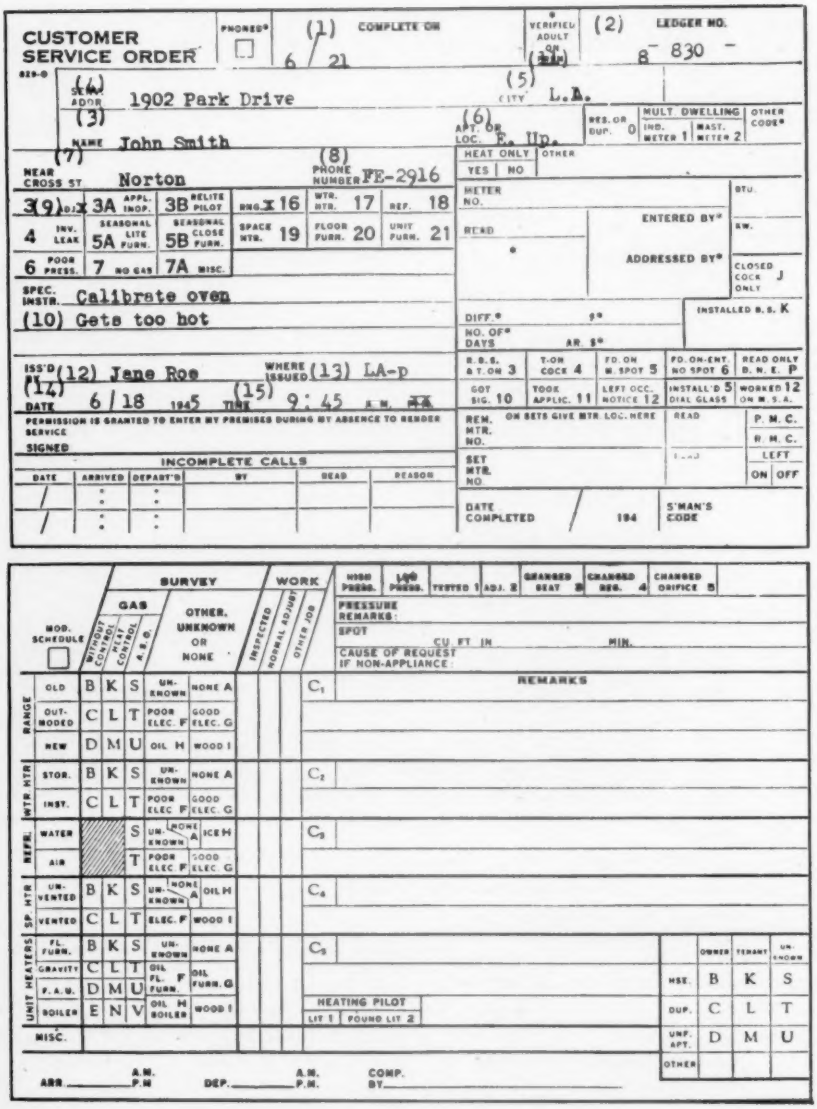
CUST. NAME: E.J. Stanley Address 2427 So. Wilton

	Tally	Yes	No	Poor	Fair	Good
1. USE OF CUSTOMER'S NAME	///					
2. USE OF FILL-IN WORDS:						
I see	/					
Well						
Oh						
All right						
Uh huh						
Oh yes						
Yes	//					
I understand						
3. CONTROL OF CONVERSATION						
Lead Conversation		X				
Obtain Customer's Problem		X				
Obtain Complete Information			X			
Alert on Names and Addresses		X				
Correct Answer or Solution Definite		X	X			
4. VOICE IMPRESSION						
Modulated- Interested		X				
Listless- Mechanical						
5. VOICE CONTROL						
Loud						
Timid						
Too fast		X				
Distinct						
6. COURTESY					X	
7. PHRASEOLOGY & GRAMMAR						X
8. CUSTOMER'S REACTION					X	
9. RATING						X

REMARKS

1. Good Personalization
2. Opening phrase too fast
3. Discussed problem before getting name and address.
4. Use "range" - not "stove".
5. Rephrase questions when customer hard of hearing.

"Monitor Record" sheet (8½x11 in.), shows how the Southern California Gas Co. keeps record of the trainee's progress in conducting telephone conversations with customers, as determined by its program for monitoring conversations.



CUSTOMER SERVICE ORDER

(1) COMPLETE OR 6/21 — (2) LEDGER NO. 8-830-

(4) ADDR. 1902 Park Drive — (5) CITY L.A.

(3) NAME John Smith — (6) APT. OR LOC. E. Up.

(7) NEAR CROSS ST. Norton — (8) PHONE NUMBER FE-2916

(9) 3 ADJ. X 3A APPL. INOP. 3B RELITE PILOT — RNG. X 16 — WTR. HTR. 17 — REF. 18

4 INV. LEAK 5A SEASONAL LITE FURN. 5B SEASONAL CLOSE FURN. — SPACE HTR. 19 — FLOOR FURN. 20 — UNIT FURN. 21

6 POOR PRESS. 7 NO GAS 7A MISC.

SPEC. INSTR. Calibrate oven

(10) Gets too hot

ISS'D BY (11) (12) Jane Roe — WHERE ISSUED (13) LA-p

DATE (14) 6/18 1945 — TIME (15) 9:45 A.M. P.M.

PERMISSION IS GRANTED TO ENTER MY PREMISES DURING MY ABSENCE TO RENDER SERVICE

SIGNED

INCOMPLETE CALLS

DATE	ARRIVED	DEPART'D	BY	READ	REASON
/					
/					

VERIFIED ADULT OR (2nd)

RES. OR DUP. 0 — MULT. DWELLING IND. METER 1 MAST. METER 2 — OTHER CODE*

HEAT ONLY YES NO — OTHER

METER NO. — BTU.

READ — ENTERED BY* — RW.

ADDRESSED BY* — CLOSED COCK ONLY J

DIFF.* — P* — INSTALLED B.S. K

NO. OF* DAYS — AR. S*

B.B.S. & T. ON 3 — T-ON COCK 4 — FD. ON M. SPOT 5 — FD. ON-ENT. NO SPOT 6 — READ ONLY D.N.E. P

GOT SIG. 10 — TOOK APPLIC. 11 — LEFT OCC. NOTICE 12 — INSTALL'D DIAL GLASS 5 — WORKED ON M.S.A. 12

REM. MTR. NO. — ON SETS GIVE MTR. LOC. HERE — READ — P.M.C. — R.M.C.

SET MTR. NO. — LEFT ON OFF

DATE COMPLETED / 194 — S'MAN'S CODE

SURVEY — WORK

MOD. SCHEDULE

GAS: WITHOUT CONTROL — PART CONTROL — A.B.C.

OTHER, UNKNOWN OR NONE

INSPECTED — NORMAL ADJUST — OTHER JOB

MOD. PRESS. — LOW PRESS. — TESTED 1 — ADJ. 2 — CHANGED SEAT 3 — CHANGED REG. 4 — CHANGED ORIFICE 5

PRESSURE REMARKS:

SPOT CU. FT. IN MIN.

CAUSE OF REQUEST IF NON-APPLIANCE:

RANGE	OLD	B	K	S	UNKNOWN	NONE A	C_1	REMARKS
	OUTMODED	C	L	T	POOR F	GOOD ELEC. G		
	NEW	D	M	U	OIL H	WOOD I		
WTR. HTR.	STOR.	B	K	S	UNKNOWN	NONE A	C_2	
	INST.	C	L	T	POOR ELEC. F	GOOD ELEC. G		
REFR.	WATER			S	UNKNOWN	NONE A	C_3	
	AIR			T	POOR ELEC. F	GOOD ELEC. G		
SP. HTR.	UNVENTED	B	K	S	UNKNOWN	NONE A	C_4	
	VENTED	C	L	T	ELEC. F	WOOD I		
UNIT HEATERS	FL. FURN.	B	K	S	UNKNOWN	NONE A	C_5	
	GRAVITY	C	L	T	OIL FL. F	OIL FURN. G		
	F.A.U.	D	M	U	OIL H	WOOD I		
	BOILER	E	N	V	OIL H BOILER	WOOD I		

HEATING PILOT — LIT 1 — FOUND LIT 2

MISC.

	OWNER	TENANT	UNKNOWN
HSE.	B	K	S
DUP.	C	L	T
UNF. APT.	D	M	U
OTHER			

ARR. ____ A.M. P.M. — DEP. ____ A.M. P.M. — COMP. BY ____

Sample form, (6x4 in.), shows items that employees of the Southern California Gas Co.'s Telephone Service Bureau are required to fill in on the Customer Service Order.

ances, how to operate safety controls and perform similar minor services.

A broad general knowledge of company operations is essential if the employee of the telephone service bureau is to give satisfactory performance, Mr. Pack declared. In addition to being able to answer all inquiries from customers concerning any phase of the company's service policy, receiving requests for turning off or on of meters, adjusting appliances, she must learn how to diagnose the urgency of a customer's request for service in order to state definitely when a serviceman will be dispatched.

Mr. Pack emphasized that her training in diplomacy and tact and in company operations must be complete enough to enable her to instruct the customer over the telephone how to perform certain services herself, and to do so without marring the cordial relations that exist between customer and company.

Employee Controls Phone Talk

The Southern California Gas Co.'s procedure calls for the employee to control the conversation in telephone contact with customers; to obtain the essential information in the shortest possible time without making the customer feel she is not receiving proper attention. This policy requires the girl to learn the use of 30 different forms. If the request is for a service not supplied by the gas company, she is expected to inform the customer to that effect in tactful and courteous language and to assist her in obtaining the services of a plumber or some other service agency.

How the Southern California Gas Co. has applied a planned training program to its telephone service bureau was outlined in a recent report prepared by Mr. Pack. The program, he stated, has been gratifying because of a noticeable improvement in employee satisfaction and a definite advancement of customer relations. It has also, Mr. Pack reported, shortened the period of training from 14 days to approximately five days, and through it the company has been able to standardize procedures and reduce labor turn-over.

Program Outlined in Pack Report

"Due to the complexity of the duties involved in this job (telephone order clerk)," Mr. Pack's report pointed out, "it is plain that the general principles of the J.I.T. production line training cannot be applied as originally prescribed. The application of these principles, however, is found in the break-down of the job. Consequently, job break-downs have been prepared for each phase of the telephone order clerk job. Grouped together, they provide a master job manual which consists of the instructor's manual, the forms manual, the conversations manual and the appliance manual.

"The instructor's manual outlines not only the material to be covered during the course of training, but also the sequence in which the instructor presents the material to the new employee. The other manuals are used during the course of instruction and for reference on the job thereafter.

"These manuals are prefaced with suggestions for self-improvement. Each job break-down lists the important steps and the key points; and, wherever possible, samples or pictures are used to illustrate the explanations.

"The use of these manuals by the instructor and the trainee eliminates the risk of spending too much time on subjects of minor importance, of including extraneous material, and of carrying the training course past a practical limit, and they provide on-the-job training with visual education," Mr. Pack's report continued.

"In addition," the report points out, "to the general orientation, particular emphasis is placed on the relation of telephone service to the public and to the other departments which will be contacted from time to time. As the new employee moves into the training program, 'presen-

tation' of the material is, to some extent, combined with 'try out performance.' The training course is divided into the following six periods.

"Period 1... Gas Production and Distribution, Territory served and use of telephone equipment.
"Period 2... Appliance Service Orders.
"Period 3... Bookkeeping Calls, Computing Gas Bills, Deposits.
"Period 4... Payment Extensions.
"Period 5... Turn-Off and Turn-On Meter Orders.
"Period 6... General Inquiries and Street Department Orders.

"Each training period consists of a definite phase of the work. Any one period ties into the next by natural progression, starting with a general description of the company and its telephone equipment, to the more frequent types of orders and requests and thence to the relatively difficult and infrequent inquiries from customers."

Type of Training Listed

The subject matter discussed during Period No. 2, dealing with appliance service orders, and the questions which are used by the instructor to test the employee's progress were set forth in Mr. Pack's report as shown herewith:

Mr. Pack explained in his report that if the trainer is satisfied with the employee's answers to these questions, practice calls are set up in order to eliminate fear and to develop the trainee's confidence in the procedure just studied. The instructor takes the part of the customer and the trainee takes the order or answers the inquiry. The time allotted to these practice calls, to review previous training and to new training is controlled by means of the training time table, shown on the page following.

Mr. Pack pointed out in his report that during successive training periods the employee handles all calls with which she is familiar and the instructor, by use of a double-jack, answers the customer's requests that have not yet been covered. At the completion of the sixth period of training, the trainee is experienced in practically every type of request and graduates to a telephone position of her own.

Throughout the six periods the trainer has referred to the various manuals so that the trainee may realize that there are few, if any, problems, that are not explained, Mr. Pack reported. This, he declared, not only assists in the instruction, but also impresses upon the employee the fact that the manuals will be available for use at all times.

"In each of the six periods of training," Mr. Pack's report stated, "reference is made to the conversational manual. Approximately 100 typical conversations are catalogued. These conversations, presented in job breakdown form, illustrate technique by means of differently worded

INSTRUCTOR'S MANUAL
Training Period No. 2 Customer Service Orders

A. *Essential Information from Customer.*
   1. Name and address.
   2. Location.
   3. Nearest cross street.
   4. Type of adjustment work to be done. Learn to give customer simple facts about the operation of his appliance. If it is evident that a serviceman should make the adjustment, avoid unnecessary and confusing questions.
   5. Customer's telephone number.

B. *Complete schedule.*
   Learn order completion schedule. Study order completion chart and Bulletins No. 141 and No. 119.

C. *"No Gas" Orders.*
   Whenever a customer reports "no gas" on premises for no apparent reason, check files and collection records to make sure he has not been closed for bills. In "Special Instructions" mark "O.K. Coll." with the name of the person who has been given the O.K.

D. Use appliance manual for instructions on lighting and closing pilots and burners. Inspect the appliances on main floor. See Bulletins No. 65 and No. 117. Offer to issue order for future completion even though appliance is relighted or made operative. The serviceman will check the appliance to prevent a similar occurrence.

E. If order received from cafe, restaurant, etc., to adjust equipment used for commercial cooking, connect customer to Local 8520 via three-way. Necessary orders will be issued by that department. See Bulletin No. 145.

PREPARE, PRESENT, TRY-OUT, FOLLOW-UP

INSTRUCTOR'S MANUAL (Cont'd)
Training Period No. 2—Questions Customer Service Orders

1. What is the normal completion schedule for the following:
   a. Adjust appliance?
   b. No hot water?
   c. No refrigeration?
   d. No gas at range oven?
   e. Re-light range top pilot?
   f. Re-light furnace pilot?
   g. Appliance won't shut off—overheated?
   h. Slight leak at meter?
   i. Slight leak at range, water heater, or Electrolux noticed several days?
   j. Odor at appliance, only when in operation?
   k. No gas throughout premises?
   l. Hazardous leak?
2. Under what circumstances will the company take care of a water leak at a water heater?
3. Explain how to light an Electrolux.
4. How is it possible to take care of a "no refrigeration" or "no gas oven" call without issuing an order for today's completion?
5. What is a "recurring order"?
6. What is general procedure to:
   a. Turn off water heater that is out and blowing?
   b. Relight water heater?
   c. Relight furnace?
7. What does "O.K. Collections" mean and when is it used?
8. How do we distinguish between an iron meter and a tin meter?
9. What order form is used to change the meter dial glass for iron meter?
10. Where do we obtain meter number to repair broken dial glasses?

TRAINING TIME TABLE

The following is a guide toward an equitable distribution of daily time during the training period.

8:00 a.m. to 9:15 a.m.	Review previous day's work
9:15 a.m. to 10:30 a.m.	Trainee answers all calls on which she has been instructed. Instructor handles all orders.
10:30 a.m. to Lunch Hour	Discuss particular calls handled previously. Introduce new work and answer trainee's questions.
Lunch Hour to 4 p.m.	Discuss new work. Instructor asks questions. Set up practice calls.
4 p.m. to 5:00 p.m.	Trainee answers customer's calls. Discuss uncertain parts of procedure.

phrases or by variations of the leading questions. The important features of a conversation, such as interest in the customer's problem, control of the conversation and politeness are emphasized. Key points again illustrate the need for special care."

A typical sample conversation from the conversations manual, in which the customer requests a range adjustment, is shown below:

CONVERSATIONS MANUAL

Sample Conversation—
Adjust Range
Important Steps

Oper.: Miss ——— of the Southern Calif. Gas Co.

Cus.: May I have the Service Dept.?

Oper.: This is the Service Bureau; May I take an order for you?

Cus.: I'd like to have my range adjusted.

Oper.: May I have your name and address, please?

Cus.: This is Mrs. O. D. Jones. I live at 5835 Malabar St.

Oper.: Mrs. O. D. Jones. Is that 5835 Malabar St., in Los Angeles?

Cus.: No. That is in Huntington Park.

Oper.: Is that a court or an apartment?

Cus.: Yes, an apartment—Apt. 104.

Oper.: That is Apt. 1-0-4. May I have the nearest cross street to that address?

Cus.: Slauson Ave.

Oper.: May I have your telephone number, please?

Cus.: My telephone is DR-0432.

Oper.: Is it the top burners or the oven that needs adjustment?

Cus.: It's the top burners. They do not burn evenly and the flame is yellow.

Oper.: We'll be glad to have a serviceman call on Wednesday to adjust the range for you. Will there be an adult on the premises between 8:30 and 5:00?

Cus.: I'll be here all day. Thank you a lot.

Oper.: You're welcome and thank you for calling. Goodbye.

Be sure to show in special instructions which part of the range needs adjustment. If the oven gets too hot, not hot enough, or does not hold heat at temperature setting, issue an order to "Calibrate oven." If the flame does not burn evenly, smothers, or is yellow, issue an order to "Adjust oven."

Appliance Characteristics Studied

Mr. Pack explained further that after the employee has absorbed the "Present and Try-Out" portions of the training course, she attends a series of eight meetings to learn appliance characteristics.

"We are fortunate," he stated, "to have available the Customers Service Department Training Staff to present these meetings. Through actual contact with the appliance the employee becomes familiar with valve locations, automatic shut-off devices, etc., on the various appliances. This instruction enables her to diagnose the customer's complaint to determine if a serviceman is necessary or if it can be temporarily corrected by the customer and a serviceman dispatched later.

"The material presented during these meetings is condensed into the appliance manual. The types and makes of the more commonly encountered gas ranges and automatic gas water heaters are listed alphabetically. The location of the automatic shut-off valve, main burner and pilot valves, and thermostats are described."

Mr. Pack pointed out that the appliance manual, coupled with the eight meetings as an adaptation of "on the job training," results not only in rendering immediate service to the customer but also in a saving of manpower in the field.

The Southern California Gas Co., he pointed out, uses three types of follow-ups to guide the progress of newer employees and to maintain a high quality of work of the experienced employees. These follow-ups consist of monitoring the conversations, periodic review by instructors and recording and play-back conversations.

"When a sufficient number of conversations have been monitored to establish a pattern," Mr. Pack's report stated, "the instructor reviews this work with the employee and suggests necessary improvements. For newer employees this is used in conjunction with a training follow-up. Three such training follow-ups provide a complete review of the training course.

"Recordings of the new employee's conversations are made at monthly intervals. Experienced employee's conversations are recorded at less frequent intervals, depending upon their need. It is rarely necessary to point out errors in conversational habits or voice mannerisms since telephone technique and other phases of telephone service are audibly apparent. Employees hearing their own voices are painfully aware of their own inadequacies and often make the necessary suggestions for self-improvement. The recordings also provide a very definite record of the employee's progress."

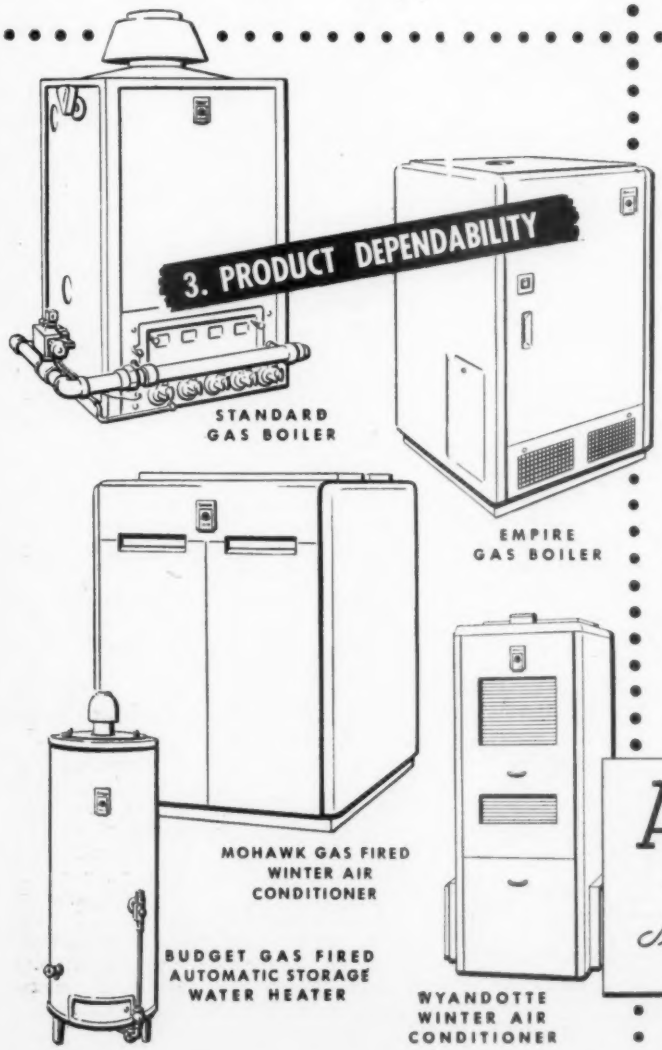
On training follow-up, the instructor's manual offers the following schedule of activity:

1. Check at monitor board for clearness on opening phrases. Watch for talking too fast and too loud.
2. Check for proper courtesy and use of customer's name.
3. Review questions for all periods in instructor's manual. Make sure each question is thoroughly understood before going to next question.
4. Alternate questions with performance for each training period.
5. Ask for questions regarding procedure or routine that is not thoroughly understood.

Follow-Up Time Table

1. Listen to trainee's calls at monitor. (Approx. 1 hr.)
2. Listen to calls at trainee's position. (Approx. 15 min.)
3. Perform at position. Trainee listens. (Approx. 30 min.)
4. Listen and follow-up with trainee at position. (Approx. 3 hrs.)
5. Listen with trainee at monitor. (Approx. 30 min.)
6. Listen and follow-up with trainee at position. (Approx. 3 hrs.)

You get MORE of all three when you recommend AMERICAN-Standard GAS FIRED EQUIPMENT


3. PRODUCT DEPENDABILITY
STANDARD GAS BOILER
EMPIRE GAS BOILER
MOHAWK GAS FIRED WINTER AIR CONDITIONER
BUDGET GAS FIRED AUTOMATIC STORAGE WATER HEATER
WYANDOTTE WINTER AIR CONDITIONER

1. CUSTOMER ACCEPTANCE. No names are better known in gas fired equipment than AMERICAN—for radiator heating . . . and SUNBEAM—for warm air heating. Nationally advertised for more than half a century, they represent quality and long, trouble-free service to your gas customers.

2. TRADE COOPERATION. Pleasant, cooperative relationship that exists between American-Standard Wholesale Distributors, their trade and you helps to build load. It is to our mutual advantage to work together in Serving the Nations' Health and Comfort.

3. PRODUCT DEPENDABILITY. American-Standard gas fired boilers, warm air furnaces and hot water heaters are designed to provide the ultimate in performance and durability. Therefore, you can recommend these fine products, confident that they will give complete satisfaction. **American Radiator & Standard Sanitary Corporation**, P. O. Box 1226, Pittsburgh 30, Pa.

AMERICAN-Standard
HEATING PLUMBING
Serving the Nations' Health and Comfort

Synthetic Liquid Fuels

The work of a team of American synthetic fuel specialists in uncovering German synthetic fuel manufacturing methods was described in an address by Dr. W. C. Schroeder, Chief of the Office of Synthetic Liquid Fuels, Bureau of Mines, Washington, D. C., before The American Society of Mechanical Engineers in the fuels session of its Annual Meeting at New York, November 26. Dr. Schroeder, who headed this technical mission into Germany, said full reports on their findings will be published by members of the team as soon as they are prepared, thus making available "the best ideas generated through the years of research that the Germans spent on the synthetic oil industry."

Describing the gasification of the solid fuels manufactured by the Germans under their secret formulas, Dr. Schroeder said that "in general, both hydrogen gas for the production of synthetic ammonia and for the hydrogenation process, as well as mixtures of carbon monoxide and hydrogen for the manufacture of synthetic liquid fuels, waxes, and lubricating oils, were made by the standard water-gas process using coke as generator fuel, or by a combination of the latter process with the reforming of oven gas or straight hydrocarbon gas." Germany, he found, has a limited supply of high-grade coking coal, but lacks a supply of the natural or hydrocarbon gas sufficient to meet their synthetic gas requirements. As a result, "earnest effort was made to utilize some of the non-coking coal for the production of synthetic gas" and considerable progress resulted.

"Two successful processes were developed for using the carbonized product which differ from those in common use in this country," he said. "They both use the char in a fine state of subdivision varying from one mm to ten mm in size, are continuous and have in common the use of mixed steam and oxygen—not air—as a gas-making fluid. The proportions of oxygen and steam in the mixture in each case were adjusted to maintain desired temperature conditions in the fuel bed.

"One of these processes was known as the Winkler process. The fuel under gasification in the Winkler generator was maintained in a fluidized condition, the particles being in ebullient motion, by virtue of the high rate of input of the oxygen-steam mixture. The resulting gas was a mixture of CO_2, CO and H_2. The proportion of these gases in the gas mixture was made variable within limitations by variation in the concentration of oxygen in the oxygen-steam mixture. The gas-making capacity of the Winkler generator was very high.

"The other process was the Lurgi pressure-gas process, which gasifies the brown coal char under super-atmospheric pressure, with oxygen and steam proportioned to give the desired gas-making temperature, but in this case the fuel bed was stationary —not fluidized. The gas comprised CO, CO_2, H_2, and an appreciable amount of CH_4. The use of pressure, of course, favors the production of methane * * * .

"Other processes were, or had been, under investigation, but apparently had not yet been carried to an entirely satisfactory state of commercial development."

Describing the Fischer-Tropsch process, Dr. Schroeder said it produces liquid fuels from coal by gasifying the coal to give carbon monoxide and hydrogen. The products, he said, run all the way from gases, such as methane and ethane, through light and middle oil to heavy high melting point wax. All Fischer-Tropsch plants in Germany operated by essentially the same process, with only minor variations, he said, adding that "in fact, no Fischer-Tropsch plant has been built since 1938, a decision which hinged apparently on the German conviction that they would be able to seize other sources of oil, such as those in Russia, and did not need to expend additional funds, manpower and material for synthetic oil plants."

When defeat became apparent, the Nazis tried hard to prevent their synthetic liquid fuel research work from falling into the hands of the Allies, and during the investigation by the American engineers, "it soon became evident that essentially all records of research and development work had been shipped to some location in central Germany.

"Little progress was made toward finding the documents until Martin, President of the Ruhr Chemie, and Hagerman, one of his assistants, were located and interrogated," Dr. Schroeder said. "They revealed that the records had gone either to one of the Herman Goering Iron Mines south of Brunswick or to the small town of Reelkirchen, near Blomberg. After a long search through Germany, important documents were found in both places. At Reelkirchen, six large rooms were filled to the ceiling with boxes of documents. Since many of these were business records, they were not important to the team, and several days were occupied in sorting out the research and development reports. About one and a half or two tons of documents were evacuated from this one location. Some of the most important work described in the documents concerned methods for the production of high alcohols, isoparaffins, and aromatics. Higher alcohols were produced by the OXO process * * * .

"The synthesis of isoparaffins has been accomplished only on a laboratory scale, but is of primary interest in offering means for producing fuel of good octane rating by the Fischer-Tropsch process * * * .

"About 80 percent to 90 percent of the high octane aviation gasoline in Germany was made by the hydrogenation process."

Lubricants

Dr. Schroeder stressed that the problem of producing suitable types of lubricants for all purposes "was of serious concern to the Germans throughout the war." Lubricating oil from petroleum was not sufficient to meet the demand and did not have the characteristics required for all applications, he said.

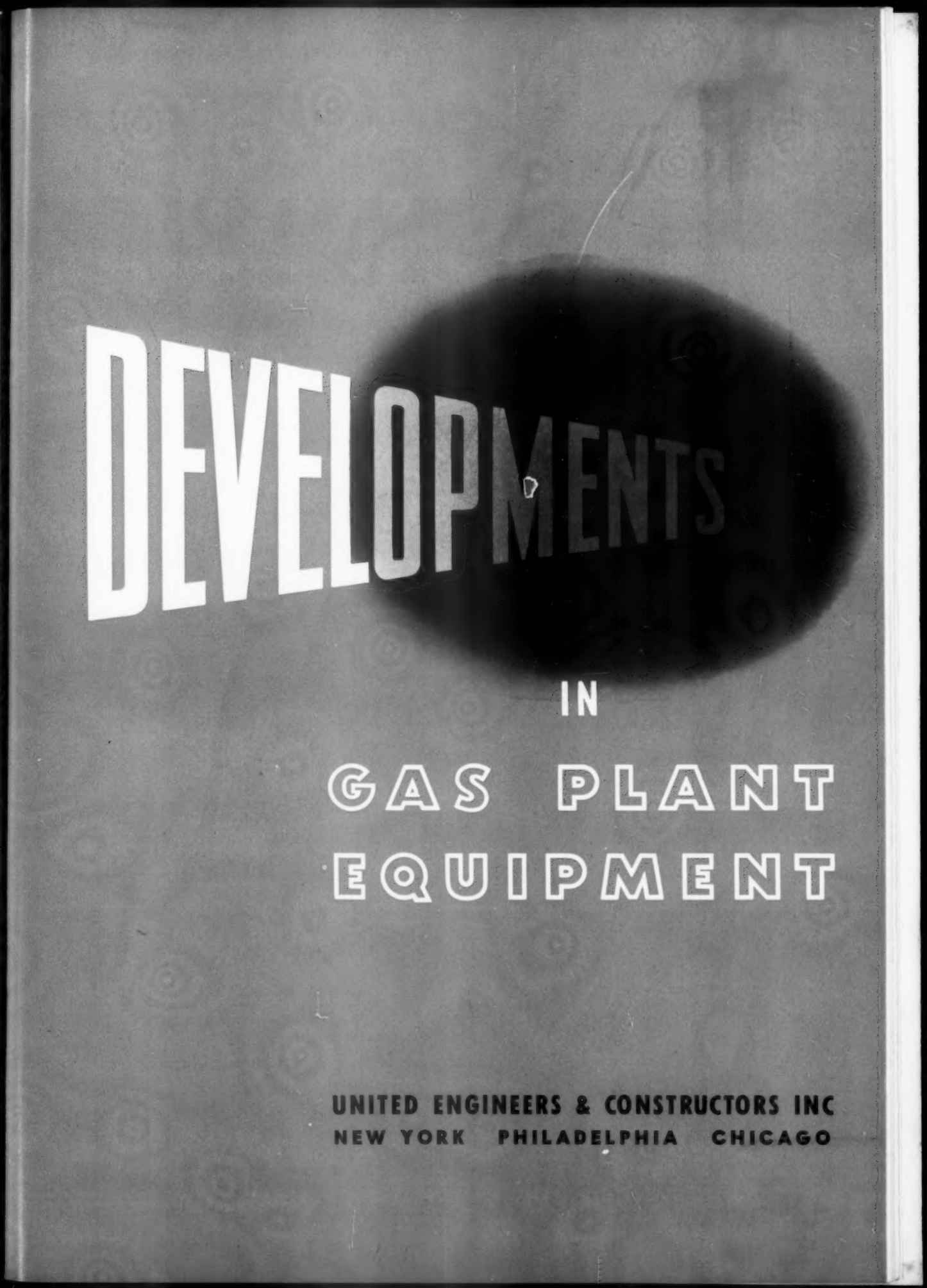
"The situation forced the Germans into an extensive study of lubricating oils and means for producing them," he added.

"This work met with a high degree of success, and at the end of the war, they were able to supply all of the necessary types of lubricants, although not always in sufficient quantity. Three methods were in commercial use. In one, Fischer-Tropsch wax, or middle oil, was cracked and then polymerized to yield lubricating oil. In the second, Fischer-Tropsch middle oil was chlorinated and reacted with napthalene. In the third, a very high grade of synthetic lubricating oil was obtained by synthesis from ethylene. The ethylene was made from acetylene, or from cracking ethane with oxygen. By this last process oil could be secured with a viscosity index as high as 115 and with good characteristics so far as could be determined by ring sticking tests. It was mixed with oil from petroleum as a means of upgrading the petroleum lubricant for airplane usage."

Describing the making of oil from oil shale, Dr. Schroeder said there were three different methods of extraction: "The first, with normal retorting procedures, using internal or external heating or a combination of both; the second, underground distillation by combustion or electrical methods, and the third, distillation in large piles on the ground." While underground distillation of shale had been carried out on a fairly large scale in Germany, it was considered to be on an experimental basis, he added.

There were twenty-three engineers in the American team, which had its headquarters in London. Reports have been prepared covering their examinations of about 200,000 pages of German texts, which have been brought to the United States in the form of microfilms.

"The job of abstracting, translating, and reporting on it is obviously a large one," Dr. Schroeder said, "and approximately twenty teams have been organized for this work. The oil industry is contributing and cooperating fully in this final phase of the investigation. Reports will be prepared on the basis of subject matter, and will cover the information taken from the microfilms, as well as the investigations at plants and laboratories and interrogation of personnel."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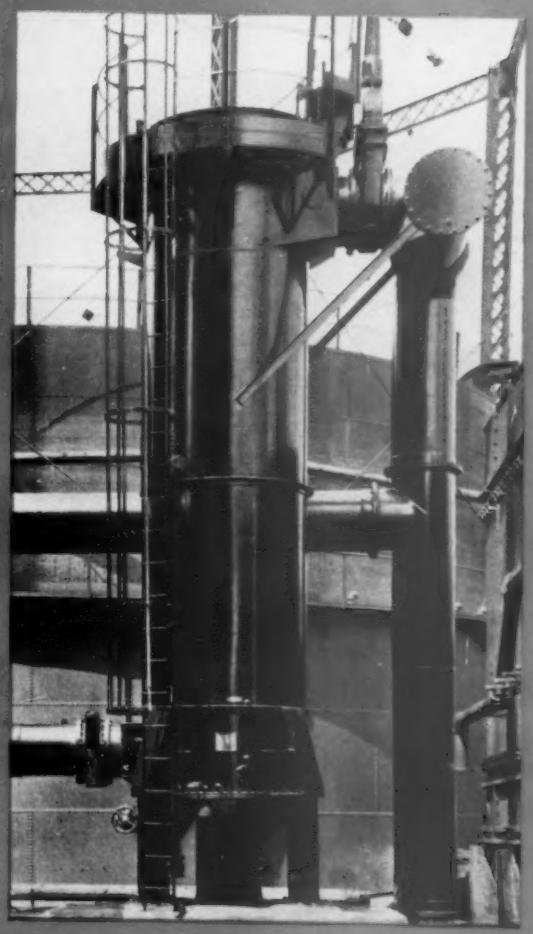

This development in gas condenser design has increased the capacity per square foot of ground area thirty times.

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Abstracted Articles of Current Interest to the Industry

Air Conditioning and Refrigeration

Foundry, November, 1943.

Conditioned air is fed across the tops of melting pots at an aluminum foundry to minimize the pick-up of oxygen and hydrogen from air-borne moisture. Incoming air is passed through two dehydrating units containing activated alumina, reducing moisture content to one-half gram or less per cubic foot. This dried air is fed over the tops of melting pots. The equipment processes 400 cubic feet of air per minute, enough for 16 melting-pot furnaces.

Machinery, May 1942.

Air-conditioning equipment now being installed for blast furnaces provides for increased production and more uniform quality of iron by removing water amounting to 30 tons per day from the 2,700 tons of air blown through the average sized furnace every 24-hours. Production per blast furnace has been increased as much as 27 percent. At the Jones & Laughlin Steel Corporation, the three installations made have increased production 18 percent and effected coke savings exceeding 5 percent.

Mech. World, v. 118, *pp.* 235-237, 247-248, *Aug.* 31, 1945. *Darling, C. S.*

Heat balance of industrial furnaces.

Heating, Piping & Air Cond., v. 17, *pp.* 411-417, *Aug.*, 1945. *Schultz, S. F.*

Organizing, operation, and maintenance of heating and ventilating systems.

Heating, Piping & Air Cond., v. 17, *pp.* 447-454, *Aug.*, 1945. *Stern, A. C.*

The use of fuel consumption and equipment data in the abatement of atmospheric pollution. Part II of Air Pollution Survey Report.

Refrig. Engg., v. 50, *pp.* 222-224, 244-245, *Sept.*, 1945. *Hirsch, S. R.*

Some problems of low temperature refrigeration.

Chemistry

Iron Age, v. 156, *p.* 59, *Sept.* 13, 1945.

Stabilizers prevent disintegration of refractories.

Chem. & Met., v. 52, *pp.* 177-178, *Aug.*, 1945. *Fetter, E. C.*

Corrosion forum.

Paint, Oil & Chem. Rev., v. 108, *pp.* 9-10, 12+, *Sept.* 6, 1945. *Hadreck, J. A.*

Corrosion—inhibition—protection.

Iron and Steel Engr., v. 22, *pp.* 27-39; *disc. pp.* 44-48, *Aug.*, 1945. *Brighton, K. W.*

The outlook for electrolytic tin plate.

Metal Ind., Lond., v. 67, *pp.* 138-139, *Aug.* 31, 1945. *Korbelak, A.*

Electronic devices. Electro-deposition in their development and production.

Machinery, v. 52, *pp.* 172-175, *Sept.*, 1945. *Chartrand, F.*

Molding presses for the plastics industries.

Modern Plastics, v. 23, *pp.* 140-143, 196, *Sept.*, 1945. *Donohue, F. J.*

Processing phenolic molding materials.

Ind. Plastics, v. 1, *pp.* 10-13, 18, *Sept.*, 1945. *Larson, W. S.*

Plastics versus metals.

Peak Shaving—Natural Gas, Sept., 1945. *Andrews, F. H.*

Many natural gas utilities have found their expansion limited due to peak load conditions for perhaps 20 days per year preventing their taking on additional profitable load for the remaining 345 days per year. This limitation may be due to a high demand charge for purchased gas or lack of pipeline capacity.

The installation of sufficient peak shaving propane-air capacity which on short notice could augment natural gas during the period of stress would enable the utility to take on year around loads of considerable magnitude and profit. Such propane-air gas would not affect appliance operation materially, if added in quantities up to 15% to 20% of total sendout, at the same Btu value as natural gas. At current and foreseeable costs propane can be furnished for such purposes, if storage is filled at supplier's option during the summer months, at 50c to 60c per mcf of 1000 Btu. gas, at most points in the middle west.

Damage to Vegetation due to Coal Gas Leakage. The Gas World (British), October 6, 1945, *pp.* 325-326.

Contains a detailed story on a method of detecting past contact of soil with Gas.

Shows a sketch of the required apparatus including a tower of absorbent carbon, soil container, $CaCl_2$ tube and nitration tube.

The Gas World (British), October 6, 1945, *pp.* 328-329.

Gas Industry is Facing Big Public Demand.

Contains a detailed educational plan of training gas salesmen consisting of following phases Personal 10 hrs., Literature 12 hrs., Vocal 10 hrs., Propaganda 10 hrs., Statistical 10 hrs., and Managerial 12 hrs., or total time of training amounting to 64 hrs.

Gas Journal (British), Sept., 26, 1945, *p.* 430.

Heat Recovery from Flue Gases. Extent of recovery is influenced by such things as size of installation, cost of heat recovered in relation to cost of other sources of supply and possible uses to which heat might be put.

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Gas Times (British), Sept., 29, 1945.

German Practice in Total Gasification. Second of a series of translations describing some general considerations of total gasification systems employing oxygen—steam mixtures with sub-headings:

Liquid Air Process

Winkler Oxygen Gasification Process

Cracking to CO and H_2 Lurgi Pressure Gasification Process

Table of Operating Results with 02-pressure Gasification of Various Fuels.

Iron & Steel Eng., Sept., 1945.

The Manufacture of By-Product Sulphuric Acid from Hydrogen Sulphide in Coke Oven Gas. By W. A. Leech, Jr. and F. D. Schreiber.

Since the introduction of gas lighting as a result of Murdock's work in 1802 and the initial purification of coal gas by Clegg in 1809 by absorption of hydrogen sulphide in a milk of lime solution, there has been continuous progress in the methods of sulphur removal from coal gas.

Recently the attention of the byproduct coke-oven industry has been particularly directed to various means of recovering this sulphur for use. It fits naturally into the flow sheet best as sulphuric acid which may be used in turn in the production of ammonium sulphate. A combination of practical processes is now in use by means of which 90 per cent of the hydrogen sulphide is removed from the oven gas and converted into sulphuric acid. Consumption of power and chemicals is low and the plant equipment is satisfactory.

Removal of hydrogen sulphide from the coke-oven gas is accomplished by the hot-actification sulphur-recovery process. In this process the gas is scrubbed with a dilute solution of sodium carbonate. The foul solution is regenerated by steam distillation in a tower packed with steel—spiral packing and operating under a vacuum provided by a reciprocating vacuum pump which pulls the gases through the cooling and condensing equipment and supplies them under pressure to the acid plant. The heat for the steam distillation may be obtained by heat exchange from the hot flushing-liquor on its way back to the sprays in the ascension pipes and collecting main of the coke-oven battery. In coke-oven plants using tar flushing, the heat may be obtained by heat exchange from the coke-oven gas between the collecting main and the primary cooler. In either case free heat is furnished for the actification and the heat load on the primary cooler is reduced.

Hydrogen cyanide is also removed from the coke-oven gas by the sodium carbonate solution and it is recovered mixed with the hydrogen sulphide at the outlet of the actifier tower. It is necessary, on account of the deleterious effect of hydrogen cyanide in forming nitrogen compounds, to remove the hydrogen cyanide from the hydrogen sulphide before it is burned in a contact sulphuric acid plant. This is done by a simple water wash in a small packed absorber. The small concentrations of hydrogen sulphide and carbon dioxide are stripped from the wash water by a still and returned to the main hydrogen sulphide stream. The hydrogen cyanide in turn is absorbed in a solution of sodium hydroxide in a packed tower, producing a 30 per cent solution of sodium cyanide which is sold as such.

The hydrogen sulphide is burned in a simple gas burner in the sulphur furnace of the contact sulphuric acid plant for production of sulphuric acid. Some changes in the acid plant are made to remove the water formed by combustion of the hydrogen in the hydrogen sulphide and to

recover the heat from the combustion of the hydrogen. The catalyst life has been considerably longer on one installation burning hydrogen sulphide than on a second unit burning sulphur in the same plant.

Modern Plastics, v. 23, *pp.* 133-137, *Sept.*, 1945. *Sampson, F. W.*
Molding for quantity and quality.

Controls

Iron Age, April 22, 1943.
Developed by the Brown Instrument Co., a new system is now maintaining accurate, automatic control of quenching time at two of our country's largest plants producing cast steel armor plate. On emerging from the normalizing furnace, heated parts are pushed along a conveyor till they reach a detachable section of the rail, whereupon a switch closes, energizing a holding-in relay, three-way solenoid valve, and the timing controller. Through the three-way valve, compressed air enters a pneumatic power cylinder which lowers the parts into the quench tank. When the immersion period is ended, the timer de-energizes the valve, and the pneumatic cylinder raises the parts out of the tank. As the conveyor wheels the work away, another switch is operated, resetting the timing mechanism. Bath temperature is regulated by a two-position thermometer which automatically controls the quantity of water flowing through the heat exchanger coils.

Electronics, May, 1943.
A smokemeter has been developed by Photovolt Corporation to register by photo-electric means the density of Diesel engine exhaust smoke. The clearness of this smoke is a dependable indicator of the quality of combustion, but visual observation is inaccurate in daytime and impossible at night. The instrument consists of a tube with a photovoltarc cell at one end and a light source at the other. The exhaust gas travels through the tube and is drawn out by a suction fan. The relative reduction in light passing through the column is read from a meter as the percent smoke density.

Ind. & Engg. Chem., Anal. Ed., v. 17, *p.* 529, *Aug.*, 1945. *Barthel, W. F. and Haller, H. L.*
Apparatus for rapid removal of solvents.

Jl. Sci. Instruments, v. 22, *pp.* 145-146, *Aug.*, 1945. *Dowding, J. J.*
Centrifugal gas specific gravity meter.

Elec. Mfg. v. 36, *pp.* 102-105, 170+, *Sept.*, 1945.
Bimetallic thermostats.

Am. Mach., v. 89, *pp.* 99-102, *Aug.* 30, 1945.
German measuring instruments reflect high degree of precision.

Elec. Engg., Trans., v. 64, *pp.* 665-670, *Sept.*, 1945. *Goodwin, W. N., Jr.*
Response time and lag of a thermometer element mounted in a protecting case.

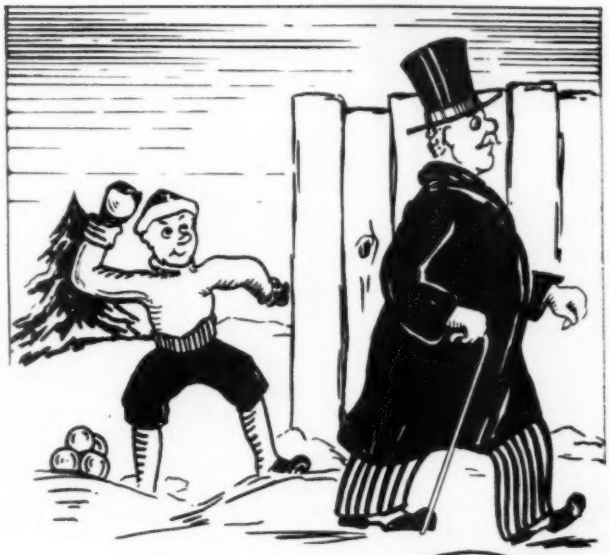
Instruments, v. 18, *pp.* 540-541, *Aug.*, 1945. *Hart, J. E.*
Metal bellows—an outstanding war device.

Finishes

Iron Age, v. 156, *pp.* 70-79, *Sept.* 6; *pp.* 64-71, *Sept.* 13; *pp.* 74-83, *Sept.* 20, 1945. *Engel, E.*
Metals, finishes, and finishing processes.

Metal Finishing, v. 43, *pp.* 368-370, *Sept.*, 1945. *Hirdler, C.*
Chemical processing.

Sheet Metal Worker, v. 36, *p.* 54, *Aug.*, 1945.
Remodeling on enameling spray booth.



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Supplied in unmixed or sponge forms.

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Am. Electroplaters Soc. Monthly Rev., v. 32, *pp.* 781-782, 843, Aug., 1945. *Wallace, R. H.*
Automatic spray painting.

Heat Treating

Iron Age, March 11, 1943.
The Selas Co. attains greater uniformity of heat delivery over the sides and bototms of magnesium melting pots by adapting all-ceramic radiant-cup gas burners to the firing of furnaces. Around the circular pot setting are placed 18 gas burners, 12 in the top row, 6 in the bottom row. A mixture of gas and air is fed to each burner through an individual line and manual valve. By single-valve 2-point control, actuated by a thermocouple in the molten magnesium, the mixture supplied to the burners is regulated, and a pouring temperature of 1,350°F. is constantly and automatically miantained within the pot. Outside pot temperature is conrolled by means of an auxiliary thermocouple which is connected into the control system. In practice, each burner attains uniformly high incandescence; and the air-gas combustion reaction is completed entirely within the cup.

Metals and Alloys, November, 1941.
The time required in one New England plant for pack carburizing miscellaneous automatic machine parts was cut from 12 hours to 8⅔ hours by installing a gas-fired radiant roof in each of eight possible furnaces previously heated by side-wall electric elements. By this procedure, costly hearth reconstruction for underfiring were avoided, fuel costs were reduced, and temperature uniformity was improved.

Steel, November 30, 1942.
A new type unit, believed the first furnace to heat totally by forced convection to 1,750°F., has been developed by the Lindberg Engineering Co. The heat is forced by a high-velocity fan through every part of the charge; thus work may be handled on fixtures or in workbaskets rather than spread out on the hearth, as is done in the case of conventional box furnaces. There is neither radiation to the work from a source hotter than the desired work temperature, nor one-sided heat which may strain or distort work. In a typical instance twelve 126-pound forgings are placed in a fixture, where they are subjected to a 4½ hour normalizing heat at 1,650°F., air cooling, a 1 hour heat at 1,500°F., an oil quench, and a 4 hour draw at 1,075°F. The previous method of normalizing these forgings was by means of a radiation type box furnace which could handle only five pieces per draw.

American Machinist, October 1, 1942.
Flame-hardening machines have been developed in recent months for the rapid heat-treatment of parts. In one Michigan plant, 40 tank camshafts per hour is the production rate for each of 3 fully automatic units now in operation. These machines solved the problem of how to develop a hardened surface around the edge of each of the 12 cams, as well as around the eccentric located between the second and third cams, without hardening the shaft itself or the machined gear in the center of the shaft. The operator places untreated shafts on the loading rails and removes the finished shafts from the oil-drainage table; the cycle through the firing zone and the oil quench to the drainage table is fully mechanized.

Another automatic installation flame hardens the bearing faces of the large heavy-section 13-tooth sprockets over which the treads of modern tanks run. In this case, the work and burners are both stationery during heat treatment. Some 78 distributed combustion burners on each of 2 production machines assure uniform heating rates on all bearing surfaces. After the heating cycle, each sprocket is automatically lowered into a water spray-quench ring and then passed through an immersion quench to cool to room temperature. Two sprockets are handled side by side at one time on each machine.
Still another device, currently being developed, will speed up the hardening of heavy lugs on tank-tread "grouser" plates. A special refractory-lined burner will combine radiant and distributed combustion so as to permit compacted combustion.

Steel, July 26, 1943.
A change in the method of locally carburizing gears is said to reduce machining time and save expense. Formerly, only the areas to be surface hardened were machined before carburizing. The entire gear was then carburized, and the hardened skin and excess stock were machined from the surfaces which weer to remain soft. By the new method, the entire gear is finish machined, and the areas to be carburized are lacquered. The gear is then copperplated, the lacquered portions remaining unplated. The lacquer is removed with hot water, and the gear is carburized. Surface hardening is limited to the unplated sections, and no machining of hardened areas is necessary.

Abstracted from Gas Journal, v. 244, *p.* 117, *July* 26, 1944. *Engrs. Digest, v.* 2, *pp.* 410-411, *Aug.,* 1945. *Anderson, R. H. and others.*
Permeable refractories for furnace construction.

Steel Processing v. 31, *pp.* 509-513, *Aug.,* 1945. *DeCoriolis, E. G.*
Applying prepared atmospheres to metal processing.

Metallurgia, v. 32, *pp.* 149-151, *Aug.,* 1945. *Dodson, F. F.*
Effect of various surface and structural conditions on nitriding.

Steel Processing, v. 31, *pp.* 489-493, *Aug.,* 1945. *Jones, R. W.*
Heat and corrosion resistant steels.

Machinery, v. 52, *pp,* 186-187, *Sept.,* 1945. *Schwartz, A. A.*
Application of Nusite—a specially heat-treated high-speed steel.

Steel, v. 117, *pp.* 120-123, 176+, *Sept.* 3; *pp.* 114-116, 172+, *Sept.* 10; *pp.* 132, 134, 137+, *Sept.* 17, 1945. *Seasholtz, A. P.*
Modern heat treating practice.

Aircraft Prod., v. 7, *pp.* 411-412, *Sept.,* 1945.
Sparking-plug heating tunnel. Gas-heated infra-red continuously-operated conveyor unit.

Metals

Modern Industry, May, 1943.
Several rare metals are performing important war jobs. Beryllium, for example, hardens copper to be used in instrument springs, aircraft motor bushings, valve seats, and other parts subject to wear. Only slightly heavier than magnesium, beryllium has exceptional tensile strength. Recently, it was found that small additions of titanium make beryllium malleable so that it can be hot-rolled into sheets as thin as 0.1 to 0.25 millimeters, as compared with former minimum thicknesses of 1 to 2 millimeters. Beryllium nickel, which has high tensile strength and good elongation properties, is used in corrosion-resistant springs, hypodermic needles, and surgical instruments.
Bismuth alloys of lead, tin, and cadmium have low melting points and are consequently widely used in safety plugs, automatic sprinkler heads, fire-door releases, and

thermal controls of many kinds. Besides having low melting points, busmuth alloys such as cerrobend expand when they solidify from the liquid state. In the aviation industry, cerrobend is used in easy-to-bend tubing, and for making working models, gages, dies, and jigs for structural parts and large assemblies. Cerrosafe, another such alloy, is used in proof-casting models, gun chambers, forgings, and dies.

Tantalum, a metal of high tensile strength and great resistance to corrosion, is used in rectifiers, radio-tube grids and anodes, steam coils, bayonet heaters, condensers, and similar equipment. Carbides of tantalum, tungsten, and titanium are used principally in the tips of cutting tools.

Indium is plated on aircraft engine bearings to protect the surface from acids generated in lubricating oils at high temperatures. Gold is used in reflecting surfaces for infrared lamps, in solder where corrosion resistance is important, and in combination with platinum in a paint that forms a surface to which solder adheres. Platinum clad metals are passive to chemicals and find applications in the food and vitamin-processing industries. The major war time job of platinum is in the chemical field, where it serves as a catalyst in the production of various acids; it is also used in spinnerets for making synthetic fibers, Vitallium, an alloy of cobalt, chromium, and molybdenum, is used in plates for broken skulls and in screws and splints for fastening broken bones together, as well as in dentures.

Metals Tech., v. 12, *T. P.* 1831, 26 *pp., Sept.,* 1945. *Hollomon, J. H. and Jaffe, L. D.*
Time-temperature relations in tempering steel.

Iron Age, v. 156, *pp.* 64-68, *Oct.* 4, 1945. *Keller, F.*
Metallography of Aloca 75S alloy.

Iron Age, July 9, 1942.

The New Method Castings Co. has developed a modern modification of the lost-wax process which permits casting to tolerances of from 0.001 to 0.0005 inch on all surfaces. The method can be applied to steel, including stainless steels, as well as nonferrous metals, and alloys, and complex sections and surface designs are being produced with good results. The method has aroused the interest of many design engineers in plants producing equipment because the greater accuracy reduced the amount of machining necessary. The master pattern is made of bismuth alloy, rubber, or plastic depending upon the design and the number of pieces to be made and is usually developed directly from a stock sample of the part to be made. Where castings carry undercuts or have cored sections, the pattern is made with removable sections. Wax is melted, poured into the master pattern, allowed to solidify, and removed. A cylindrical flask is placed over the wax form and the liquid investment poured into the flask. During a cold setting period of 8 to 10 minutes, the investment becomes quite hard. The mold is then baked for about 2½ hours under constantly rising temperature. The liquid wax is poured out, and the molten metal pouring is done in a centrifugal casting machine while the flask is still extremely hot. After the casting temperature has dropped past the critical zone, the flask is removed, and the mold material knocked off the casting. Sand blasting is employed for a final removal of any material which may remain in corners or cored sections.

Molding is standardized in a 3- by 3-inch flask. The daily output from a mold ranges from 200 to 300 pieces. The maximum size of the pieces now cast by this method is 2¼ by 2½ inches, but experimental work is under way covering the casting of larger pieces. The wax used is a comparatively plentiful domestic grade, treated to eliminate residue and to hold shrinkage to a minimum. For closer dimensions, experimental work is being done to replace wax with low melting point metals. The refractory materials is very fine—it will pass through a 340 mesh screen when dry. The composition of the investment is adjustable to suit the type of metal being poured, and is sufficiently porous to permit gas to escape.

Wire & Wire Products, v. 20, —. 758-761, 764-765+, Oct., 1945. *Pirk, G. W.*
Trends in metallurgy.

Metal Ind., Lond., v. 67, *pp.* 169, 172, *Sept.* 14, 1945.
Thermal analysis of metals. Interpretation of dooling curves.

Steel, v. 117, *pp.* 115, 164, *Oct.,* 1, 1945. *Lillegren, A. T.*
Die casting methods in Germany.

Metal Progress, v. 48, *pp.* 761, 768, *Oct.,* 1945. *Basch, D.*
Metal mold castings.

Miscellaneous

Science News Letter, October 9, 1945.

A gas turbine, a development attributed to the combined research of many corporations, notably Brown Boveri, is the simplest, most compact engine ever invented and among the most economical. Fuel, which may be either oil, natural gas, byproduct gas, or possibly powdered coal, is caught in a blast of compressed air and blown into the turbine through a burner, similar to the domestic oil burner. The compressed air and combustion gases, expanding tremendously in the intense heat spin the windmill The power of the spinning shaft can either be harnessed directly to machinery or used to generate electricity. The gas turbine is now used with great success in many plants. It has been suggested that the new engine may ultimately revolutionize aviation by making giant airplanes practical.

CRUSE-KEMPER COMPANY
AMBLER, PENNA.
GAS HOLDERS
Low Pressure High Pressure Inspection
Purifiers Tanks Flues
Over 40 Years of Sound
Steel Plate Construction

Experience with 2 inch C. I. Pipe in Southern California

Cast Iron Pipe with a working pressure of 250 p.s.i., and which can be coupled and installed for one-third the labor cost of substitute material, should be of interest both to water and gas distribution companies. These installation economies are principally the result of the mechanical joint of the Cast Iron Pipe. This joint consists of a special gland with a follower ring and rubber gasket.

Recent experience with the installation of several miles of two-inch Cast Iron Pipe by the Southern California Gas Company at Los Angeles has demonstrated that little skill or effort is required to install this pipe when coupled in the field with the mechanical joint. This two-inch Cast Iron Pipe was prefabricated at the factory into 18-foot and 24-foot lengths, and we found that three unskilled workmen in the field can swab and make up the joints at a rate of approximately 1,000 feet of this pipe in an hour. Compared with the practice of "yesterday" of installing substitute coupled pipe in which the couplings were removed, reversed, "doped," and reinstalled by a four-man crew which made up little more than a thousand feet of pipe in a day, the speed and economy of the Cast Iron installation is readily seen. The installation of substitute pipe requires trained men and installation costs are two to three times as great as that found in installing the Cast Iron Pipe described above. To be stressed then is the time-saving and reduction in manpower and in skill required in the installation of small-diameter distribution mains when use is made of this special jointed Cast Iron Pipe. These are important items during these critical times of manpower shortage.

With Cast Iron Pipe a protective coating naturally is not required. Therefore, an indirect saving results in handling Cast Iron Pipe since there is no coating which needs to be protected from damage in storing, trucking, handling, unloading, or which can be damaged by building construction workmen while the pipe is strung in the field. Furthermore, in lowering or backfilling, the usual precautions in protecting coated pipe are not necessary with Cast Iron Pipe.

In swabbing the pipe preparatory to making up the joints, it is found that Cast Iron Pipe is more readily cleaned because there is no internal corrosion.

Two-inch Cast Iron Pipe with mechanical joints permits sufficient joint flexibility so that the pipe may be installed without fittings on curves of radius of not less than 200 feet.

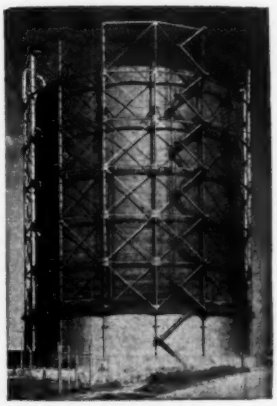
For making service connections, "bosses" are provided on two-inch Cast Iron Pipe. The use of Cast Iron mechanical joint two-inch fittings provided by the manufacturer is being considered; however, our practice on this job was to braze tees of substitute material to these "bosses" from which tees service lines were extended. The two-inch Cast Iron Pipe main was then drilled out in accordance with standard practice. After the original installation, if lateral main extensions are required, a pressure extension fitting may be brazed to the side of the main at a "boss," or a self-pinning tee placed on the top of a "boss" connection. The only limitation in these lateral extensions is that the diameter of the tap hole on a two-inch Cast Iron main can be no greater than 1¼-inch diameter. Two-inch Cast Iron Pipe can be easily cut with a three-wheel pipe "cutter."

In testing Cast Iron Pipe, precaution should be observed in analyzing pressure charts. Fluctuation of pressure with temperature changes has been found to be quite pronounced due to the exposure of the bare Cast Iron Pipe which reacts faster to the temperature changes than does coated pipe.

Whenever substitute materials are brazed to Cast Iron Pipe, the Cast Iron Pipe should be coated past the weld an additional 18 inches, with the usual field wrap protection to prevent galvanic action due to the dissimilar metals.

When the longer life expectancy of Cast Iron Pipe is considered, together with installation economies plus minimum maintenance expenses and the permissible use of unskilled installation labor, Cast Iron Pipe appears particularly attractive, especially for gas distribution mains.

STACEY
SINCE 1851



94 YEARS of leadership in our service to the gas industry, and more recently serving also the Government and its armed Forces with many important installations, is a record of which we are justly proud.

The gas plant equipment we design, fabricate and erect includes

Low Pressure Gas Holders of simple and sturdy design with high quality workmanship.

High Pressure Holders, either vertical or horizontal type, riveted or welded, correct in design and detail, for storage in outlying districts, peakloads and emergency demands.

Ask us about our Gas Holder Inspection Service.

THE STACEY Manufacturing Co.
ENGINEERS
FABRICATORS
CONSTRUCTORS
Cincinnati, Ohio

General Controls Appoints Divisional Sales Manager—Refrigeration

The appointment of Mr. J. M. Schlemmer as Divisional Sales Manager of the Refrigeration Division was recently announced by Mr. J. F. Ray, Director of Sales, General Controls Company, Glendale, California. In this capacity he will contact all original equipment manufacturers, jobbers and dealers in coordination with the branch office personnel in the use and sale of the refrigeration line of automatic control equipment.

IT STARTS HERE!

The photograph shows the first step in the assembly of the stuffing-box type mechanical joint developed and standardized by our members to meet the requirements of higher operating pressures in gas distribution. In the 15 years since it was tested and approved by the American Gas Association laboratory this joint has been proved bottle-tight in thousands of installations throughout the nation. An important advantage of cast iron mechanical joint pipe is the speed and simplicity with which it is installed by untrained men. Cast Iron Pipe Research Association, Thomas F. Wolfe, Research Engineer, Peoples Gas Building, Chicago 3.

CAST IRON

Standardized MECHANICAL JOINT

PIPE

RECENT COURT DECISIONS *Affecting Gas Utilities*

Review Gas Supply Law Suits

By
Leo T. Parker
Attorney at Law
Cincinnati, Ohio

OBVIOUSLY, the subject of gas supply is broad and comprehensive. First, we shall review modern higher court decisions involving gas explosions.

The degree of care required of a company manufacturing and distributing gas is well established. In dealing with this dangerous substance a high degree of vigilance must be exercised and every reasonable precaution taken to guard against accident. While its measure of responsibility is not that of an insurer, the company is liable for an explosion when it knew, or by the exercise of ordinary care should have known, of a defect in its pipes or mains. It is not sufficient for it merely to install proper lines and fixtures but it is required to maintain them, and this entails inspection from time to time and watchfulness for conditions incident to natural wear and tear. See Heh v. Consolidated Gas Company, 201 Pa. 443; Hartman v. Citizens' Natural Gas Company, 59 A. 315, 316; Shirley v. Consumers' Gas Company, 64 A. 541; and Stephany v. Equitable Gas Company, 31 A (2d) 523.

Generally speaking, a gas company is under no duty to inspect or repair service pipes leading from the street to the consumer's property. Usually service pipes belong to the property owner and under his control. Consequently there is no duty on the part of the gas company to inspect, maintain or repair them, that obligation resting exclusively upon the owner or tenant of the property. For verification, see Greed v. Manufacturers' Light & Heat Company, 238 Pa. 248; Windish v. People's Natural Gas Company, 93 A. 1003, 1004; Pouder v. People's Natural Gas Company, 245, 93 A. 1005; and Hanley v. Peoples Natural Gas Company, 188 A. 157.

However, this principle of nonliability on the part of the gas company in the case of a service pipe, as distinguished from its own mains, *is not without exception*. If the gas company knows that there are defects in such a pipe, or is in possession of facts which should reasonably inform it that it is unsafe, it then becomes its duty to investigate the safety of the pipe before it continues to use it for the transportation of gas, and if it fails in that duty it becomes liable for any resulting accident. More specifically, if the company knows, or under the circumstances has reason to know, that a service line is rusted and corroded to such an extent as to permit gas to escape therefrom, it is its duty either to notify the property owner to repair it, or to shut the gas off at the street in order to avoid the likely danger. See Pouder v. People's Natural Gas Company, 93 A. 1005, 1006; and Heller v. Equitable Gas Company, 3 A. (2d) 343, 344. Also, see Stephany v. Equitable Gas Company, 31 A. (2d) 523. This court said:

"The company knows that it is dealing with a dangerous agency and if it knows or should have known that the consumer's lines are not safe it is its duty to require the lines to be repaired or else to shut off the gas at the curb."

For illustration, in Goodman & Theise, Inc., v. Scranton Spring-Brook Water Service Company, 43 Atl. (2d) 111, reported August, 1945, it was shown that in 1916 a service pipe for gas was installed in a residential property. In 1928 the gas company was notified that gas was no longer required for this property. Accordingly, it removed the meters from the house and stopped the service, but, instead of disconnecting the line at the curb, it merely capped the service pipe inside the cellar wall and retained gas in the pipe under pressure from the street main. Later in that same year the house was torn down, the cellar filled in, and the service pipe buried in earth, cinders and debris. In 1929 a factory building was erected upon the lot; the basement was located in a different place than the old cellar and a concrete floor was laid upon the filled-in ground over this pipe.

On May 24, 1942, the factory building and its contents were severely damaged by a violent gas explosion and a number of additional minor explosions which occurred intermittently thereafter during the succeeding two hours. The owner of the building sued the gas company for damages amounting to $49,081.09.

The lower court held the gas company liable for $20,000. The higher court generally approved the verdict except that it believed the damage allowance was too low. The court said:

"In the present case defendant (gas company) is liable for the accident which occurred because the unusual facts imposed upon it an even greater measure of responsibility than that to which it would thus have been subject had it been continuing to furnish gas to the owner of the property. While the pipe itself continued, of course, to belong to the owner of the property, the gas in it belonged to defendant."

Notwithstanding, these explanations we do not mean to be understood that whenever the service of an owner or tenant is temporarily discontinued, it immediately becomes the duty of the company to shut off the gas at the curb or to disconnect the service pipe at the main. However, where the service is permanently and unconditionally terminated, the property owner having therefore no further interest in or benefit from the maintenance of the supply of gas in the pipe, the gas company has no legal right to permit the pipe to remain with gas under pressure.

While failure of the gas company, under such circumstances, to cut the service off at the street may not in

itself constitute negligence, there *is* imposed upon the company the duty to exercise a high degree of care and to inspect, maintain and keep the service pipe in repair as long as it is so used. Failure to observe this duty may result in the company being held responsible for any resulting injury to innocent persons or their property. See Canfield v. West Virginia Cent. Gas Company, 80 W. Va. 731; Castner v. Tacoma Gas & Fuel Company, 123 Wash. 236; and Swayzee v. City of Augusta, 113 Kan. 658.

When Company is Negligent

It is well established law that if a gas explosion results from negligence of a gas company's officials and employes, the company is liable in damages. Therefore, it is important to know exactly what is legal negligence.

A view of late and leading higher court decisions disclose that (1) A gas company is guilty of legal negligence if a leak in its own pipes and appliances causes injury to persons or property, whether or not it had actual notice of such leak or leaks, because a gas company is bound to keep its own pipes and appliances in good condition and to have a proper system of inspection to discover leaks. (2) A gas company is guilty of negligence if a leak in a customer's pipes and appliances causes injury to persons or property, provided the company has sufficient notice of such leak or leaks, and having such notice (a) negligently inspects or negligently repairs ; (b) agrees and assumes to inspect and repair, and then fails to do so; (c) refuses to inspect and repair knowing a dangerous condition exists, and with such knowledge fails to shut off its gas until the owner can have his pipes and appliances properly repaired.

Also, according to a late higher court decision where a gas company is notified that gas is leaking in a residence, it is the company's duty to immediately inspect the premises, including the property owner's pipes, fittings, and appliances and if the leak is in the pipe, fittings, and appliances, owned by the property owner, to shut off the gas until proper repairs may be made.

For instance, in Jelf v. Cottonwood Falls Gas Company, Inc., 160 Pac. (2d) 270, reported October, 1945, it was shown that the telephone girl at the office of a gas company was notified that a property owner smelled gas in his house and supposed that there was a leak. Also, a field man for the gas company was notified and he said that he would investigate the matter. Also, another employe of the gas company was notified by the property owner that there must be a gas leakage in his house. Employes of the gas company examined the pipes to determine the source and cause, but failed to locate the leak. One month later an explosion occurred in the dwelling house which caused a fire from which the household goods were totally destroyed, and other injuries were effected for which the property owner sued the gas company.

The property owner alleged that the explosion was caused by the carelessness and negligence of the gas company employes who had established a gas meter attached to the residence and the pipes and laterals leading thereto had rusted and deteriorated. Also, the property owner alleged that the company negligently failed to repair the leaks after having been notified of such defects and that gas was leaking and escaping into his residence.

The lower court held the gas company liable but the higher court reversed the verdict, and said:

Another unusual approach to a common problem by Stacey Brothers

We are fabricators of steel and its alloys and we specialize in the design, production and field erection of high and low-pressure tanks for practically every industry.

If you need additional storage tank capacity, we'll be glad to build you a new tank. But—if your present tanks have umbrella-type roofs or cone-type roofs supported from a center pier, it may be far more desirable to increase the capacities of your present tanks by adding new shell sections as shown by the example illustrated above.

Here are the advantages:

- Increased capacity, even though your tank farm has no additional space.
- No costly new piping required.
- Saves money and time since all major parts of your present structures can be used without dismantling.

A letter addressed to us asking for our detailed pamphlet on "mushrooming" storage tanks will give complete information.

STACEY BROTHERS GAS CONSTRUCTION CO.
One of the Dresser Industries
5535 Vine Street Cincinnati 16, Ohio

Stacey Brothers TANKS

"If a person knows that gas is escaping into his house from the main of a gas company, it is his duty to take suitable precautions for his safety, and if he does not do so, and damage results, he will be guilty of contributory negligence and cannot recover."

Another principal reason this higher court reversed the lower court's decision was that the property owner was permitted to testify before a jury that he reached the conclusion as to the value of his property by considering the replacement value rather than the actual value of his household goods destroyed by the fire caused by the explosion.

Property Owner's Appliances

According to a leading higher court decision a gas company is under no legal obligation to inspect and repair appliances owned by gas consumers.

For instance, in Gas Works Company, 7 Atl. (2d) 326, it was shown that the owner of a home noticed the odor of gas in his basement. Upon making an investigation, he notified the gas company to come and make an inspection, because his hot water heater was leaking. The gas company officials failed to send a repairman, although the property owner again notified the company that gas was escaping in the basement. Soon afterward the property owner attempted to light the water heater. An explosion occurred which seriously injured the property owner, who sued the gas company for damages. He contended that the company officials were negligent in failing to send a serviceman to inspect the basement and impart the important information that the gas water heater was in need of repairs.

However, it is interesting to know that the higher court refused to hold the company liable. The reason the court refused to hold the property owner entitled to recover damages is because the water heater was owned by the property owner, and there is no "implied" obligation and no valid state law which required the gas company to inspect other persons' appliances and make necessary repairs.

Right to Cut Off Supply

Modern higher courts consistently hold that a gas company cannot under any circumstances be held liable in damages for failure to supply gas when the contract with the consumer does not contemplate supplying gas for a particular purpose.

For instance, in Warfield National Gas Company v. Anderson, 61 S. W. 27, it was shown that a consumer extended gas pipes to an out-building where he was raising baby chicks for commercial purposes. One day the gas supply failed due to frost getting in the regulator. Due to lack of heat and condensation, the chicks became wet and chilled, and a great many of them died.

Although the lower court held the gas company liable the higher court reversed the verdict, because the company had contracted to supply gas for domestic and residential purposes but it had *not* agreed to supply gas to be used in a chicken brooder. This court said:

"Here the contract was for domestic and residential purposes. As appellant (company) had not contracted to furnish gas for a different purpose, it would be unfair to put upon it a liability for damages for failure to keep up a gas supply out of all proportion to such liability where the use was simply domestic or residential."

Consumer Inconvenienced

Although a consumer is greatly inconvenienced by the act of a gas company, which cuts off a gas supply, the consumer may not always recover damages.

For illustration, in Detroit Gas Company v. Moreton Truck & S Company. 69 N. W. 659, it was disclosed that a gas company cut off a gas supply from a business plant, when the consumer failed to pay for a gas meter. The consumer sued the gas company for damages. The higher court refused to allow any damages, saying:

"Inconvenience, unaccompanied by pecuniary loss, is not an element of damage upon being deprived of the use of property."

Also, in Wink Gas Company v. Huskey (1931; for example Civ. App.) 42 S. W. (2d) 819, where a gas company wrongfully disconnected the gas in a rooming house. The high court affirmed that portion of a judgment of the lower court which awarded damages in the sum of $75 for loss of profits, but $25 for damages for inconvenience to the consumer was held to be too speculative and was disallowed.

Must Prove Damages

Consumers who sue for damages must positively prove their allegations, or no damages will be awarded.

For illustration, a gas company employe may enter a building and turn off gas when erroneously believing the consumer had not paid an overdue bill. Under these circumstances the gas company is liable for the trespass *only*, unless the consumer proves other damages.

For example, in Dobbs v. Norther Union Gas Company, 137 N. Y. S. 785, it was shown that an employe of a gas company disconnected the gas supply at about 2 p.m. One hour previously, the consumer paid at the company's office the unpaid bill. In view of these facts the consumer sued the gas company for heavy damages. However, the court awarded the consumer only $50.00 which was based upon the "trespass" by gas company's employe of the consumer's property.

On the other hand, a gas company is liable in damages for its failure to supply gas, or for illegally cutting off the gas supply, if the consumer actually suffered damages and the gas company was legally obligated to supply gas. In other words the gas company is liable for all the direct and proximate damage resulting to the consumer if failure to supply gas is a legal breach of a valid contract between the company and the consumer.

L. P. Gas in Wisconsin

To meet the increasing demand for gas service, the Wisconsin Public Service Corp. added a 30,000 gallon propane tank to its facilities at Green Bay to be used as standby. The tank has a length of 62½ feet and is 106 inches in diameter. Additions at Two Rivers and Sheboygan are contemplated.

The Reliable Shut-Off for Street Mains

THE GOODMAN STOPPER

Now has the "Z" handle for easy manipulation. When locked in place it holds. Stopper cannot slip. Gas cannot pass. Adjusted in 30 seconds.

Ask for circulars on this and other distribution equipment.

Nearly a half century of service to the Gas Industry.

Safety Gas Main Stopper Co.
523 Atlantic Avenue, Brooklyn, New York

Gas and the Food Industries in Post War Cooperation

By

Frank H. Trembly, Jr.

Assistant Sales Manager
The Phila. Gas Works Co.
Philadelphia, Pa.

THE COOPERATIVE relationship between the Food Service Equipment Industry and the American Gas Association is one of long standing and, I am certain, of mutual benefit to both organizations. I recall having the privilege of addressing your meeting some 6 years ago when it was held at Skytop, Pa. The beginning of our relationship, however, goes back 5 years beyond that, to about 1934, when Sam Annoff and Tom Gallagher worked out the original basis for cooperation. This was only about 2 years after the founding of the Food Service Equipment Industry. Much progress has been made during this eleven year period. There have been, to be sure, ups and downs in our relationship, many plans that fell short of the mark; but nevertheless, the understanding between our two industries is an outstanding example of inter-industry cooperation. No other two industries, to my knowledge, have more in common than have we, and I am a sincere believer in the need and benefit of such cooperation.

The extensive customer acceptance and use of gas as a commercial cooking fuel is one of the important justifications for a spirit of close cooperation between our industries. Where city gas is available and, as you know, this includes by far the greatest number of food establishments in the country, gas serves in those areas from 80 to 98% of all commercial cooking customers. In addition, in those areas beyond the city gas lines, bottled gas carries a considerable part of the commercial cooking load and is a rapidly growing outlet for heavy duty equipment.

Gas the Dominant Fuel

Because of this extensive use, gas is recognized as the dominant fuel for commercial cooking. No other cooking fuel or service can even approach, much less equal gas for operating economy, for convenience, for long equipment life, for low maintenance, for customer satisfaction and for acceptance in hundreds of thousands of commercial cooking installations throughout the country. We have no intention of relinquishing this position or permitting other fuels or services to make any appreciable headway in this market. We regard it as our own and we intend to maintain our position in it.

The Gas Industry is fully conscious of its responsibility in this field, as well as to the needs of the future. Plans are now under way for a material expansion in research and development in commercial gas appliances and for a more extensive promotional program that should result in the modernization of a major portion of the commercial cooking equipment now in use.

Cooking Research

The Gas Industry has in operation today a broad program of basic research in new gas applications to commercial cooking. This may well result in revolutionary changes in gas equipment, with the development of gas applications never before used. Total pre-mix, blast-type gas equipment may readily be the outcome of this research work. If this work develops as indicated, there will be made available to your Industry superlative gas equipment, with performance and efficiencies hitherto unobtainable.

Before such basic changes are made, however, existing types of gas equipment will show many changes and improvements as the result of studies and research by both the utilities and the equipment manufacturers. The results of this work should be progressively available in 1946, as new models of commercial gas equipment are brought out.

Promotional Work

The Gas Industry has recognized the need for the national promotion of gas as a commercial cooking fuel. From an advertising standpoint, this is taking the very practical form of a $112,000 appropriation for industrial and commercial advertising, for the year beginning October 1, 1945.

Frank H. Trembly Jr.

As a result of this program, full page advertisements are appearing monthly in the best known commercial cooking publications, including the American Restaurant, Restaurant Management, Hotel Management, Modern Hospital, Institutions, Food Industries, Chain Store Age, Baker's Weekly, and Baker's Helper. This represents a substantial enlargement of past advertising programs.

This extensive advertising program, when backed up by the advertising of the gas appliance manufacturers, as well as the local utilities, will properly represent the gas industry before your customers.

Other promotional programs are also under way. A survey has been made by most gas utilities as to the status of the commercial cooking equipment on their lines and the results have indicated that a tremendous replacement market is available. Consideration is being given to a national program on gas equipment modernization and replacement, as soon as manufacturers' deliveries approach normal. Such a program should consider the Food Service Equipment Industry as the principal sales outlet for this equipment.

We have now under preparation, for issue next Spring, a most complete Food Service Manual, designed not only for gas utility representatives, but particularly for sales rep-

resentatives of Kitchen Equipment Houses. This manual, of substantial size, will be most informative and will in no way conflict with the policies of your organization or compete with you in kitchen design. It is intended to help you, not hurt you.

Part of this promotional program includes the training of Food Service Equipment representatives on gas equipment, to promote a better understanding on the part of these men of the economic and competitive relationship of gas with other fuels. It is our expectation that such training can be made available to kitchen equipment houses throughout the country under the guidance and direction of the gas industry. We invite you to join with us in this program.

Cooperation

Both of our Associations have the same problem—that of keeping our members in line. With respect to the utilities, they fall into three general classes. The first class represents those utilities who operate on the basis of full and honest cooperation with Kitchen Equipment Houses, including: No direct sales competition; financing of Kitchen Equipment House sales without recourse; sales, engineering and servicing assistance. This group endeavors to practice the Golden Rule and to live up to both the letter and spirit of our agreement. It is, I am glad to say, a growing group, with the greatest support found in the Metropolitan Centers.

The second group represents those utilities who give lip service to the program of Kitchen Equipment House cooperation, but who may fall off the wagon at times. They usually are not serious offenders and their fault is more indifference rather than a deliberate action. As the utility management of this group becomes more conscious of the need for cooperation, and its value to the gas industry, they will undoubtedly become part of the first group representing full cooperation.

There is a third group of utilities, fortunately rather small, where there is direct and open competition with Kitchen Equipment Houses and where no cooperation whatsoever is extended. This represents a limited class of "rugged individualists" who are not sympathetic to our program.

The A.G.A. Food Service Committee is exceedingly aware of this group and realizes full well the damage to our mutual relationship that can result from their activities. However, we can only lead and cannot drive our member companies. We can point out to them the advantages of cooperation, but we cannot demand their adherence to our program. Because of this situation, we ask your sympathetic consideration. We are making an earnest endeavor to have those in one group graduate into the next, representing greater cooperation. In time we believe that the great majority of the Gas Utilities of the country, and with but few exceptions, will see the light and will fully cooperate with Kitchen Equipment houses.

Cooperation, however, to be effective, must be mutual. It is not a one-way street. We in the gas industry must be able to show to our recalcitrant members the fruits of our labors in the vineyard of cooperation, if we are to persuade them to follow our lead. The ledger of cooperation must balance, with credits to us, to offset the debits that we willingly charge against the account. This is a point that I wish to emphasize. We do not ask, as the fee for our cooperation, that the Food Service Equipment Industry sell our fuel for us; but we *do* ask that you preserve an unbiased attitude regarding fuels, and that you make your recommendations directly in your customer's interest, without showing favor to any of our competitors. This, I believe we have the right to ask of you in return for our cooperation.

Competition

An unbiased attitude regarding fuels is an obligation that you owe to your customers, even more than to us. Your recommendations should be based on the comparative economics of the fuel situation—the actual dollars and cents advantage to your customers—not on glamor, electronics, radar, or an armful of intangible and unproveable advantages. We in the Gas Industry are willing to stake our future in this field, on the sound basis of economic advantage to your customer, that can be proven by test. It is our conviction that we are entitled to the commercial cooking business on the basis of customer economic advantage and it is up to us to protect our own interests.

A few cases have occurred where Kitchen Equipment Houses have, notwithstanding the full cooperation of the local gas utility, recommended competitive equipment, contrary to their customer's interest. I wish to point out to you that such a policy strikes a blow at any cooperative plan and can do great damage to our relationship. Such action gives support to those in our industry who question the value of cooperation.

Under such conditions, it has been necessary for the Gas utility to submit a counter proposal to the customer and to reverse the recommendation of the Kitchen Equipment House. In most cases, the Gas utility can induce the customer to purchase gas equipment on the basis of economics, and recommendations for another fuel by Kitchen Equipment Houses, contrary to their customer's best interests, are damaging to the reputation of the Kitchen Equipment House with the customer. It is my opinion that it is not too much for us to ask, that your fuel recommendations to your customers be made without bias and definitely in your customer's interest. We are willing to abide by any decision based on economics, but will be forced to take issue with you, when any such recommendations are not only contrary to our own interests, but to those of your customer as well.

It may be that a Joint Committee on Trade Relations should be organized, with members of the Food Service Equipment Industry and the American Gas Association serving jointly on the committee. This committee would have a semi-official status and could be the rallying point for further progress in this direction. The Gas Industry would welcome such an opportunity for developing a closer cooperative relationship, and I submit this suggestion to you for your consideration.

The Gas Industry is entering the post-war period strongly conscious of the need of cooperation with other agencies selling gas appliances in all fields. Great progress is being made in the field of residential appliances and I am convinced that equal progress can be made in the Food Service Equipment field as well, if we all pull together. The future of the Food Service Equipment business is a bright one and it is my hope that we can jointly make it even brighter for one another.

Presentation before the Nov. 14, 1945 Meeting of the Food Service Industry, Inc., held in New York City.

Gains in Residential Construction During 1945

According to Dodge reports, residential construction in the first ten months of 1945 amounted to $388,959,000, a gain of 22 per cent over last year.

During the period October 16-31, immediately following removal of WPB Limitation Order 41, residential building gained 172 per cent.

Book Reviews

"Lessons in Arc Welding," Seventh Printing, second edition, published by The Lincoln Electric Company, Cleveland, Ohio, 176 pages, 5½ × 8½ inches, 133 illustrations, including photos and drawings; cover, semi-flexible simulated leather, gold embossed; price postpaid United States 50 cents per copy, elsewhere 75 cents per copy.

"Lessons in Arc Welding," is a revised and up-to-date new printing of the second edition to assist both new and experienced welders as well as all persons interested or concerned with the subject, with complete and thorough instructions in all phases of arc welding.

The book includes 61 lessons in arc welding and has over 200 photos and illustrations to supplement the text. From the very first paragraphs dealing with "Instructions to the Operator," to the 571 examination questions and answers given in the closing pages, the book sets forth in plain simple language, the practical instruction based on the experiences of Mr. Arthur Madson, head instructor in the Lincoln Arc Welding School.

Published with the objective of aiding those interested in welding to use the process successfully and economically, "Lessons in Arc Welding" explain the fundamentals of this method of joining metals by the fusion principle and incorporates a wealth of new information such as how to apply the latest types of electrodes and welding techniques developed during the war years.

"The Service of Selling." A unique set of two books for the Home Appliance salesman, by Kenneth Lawyer, Associate Professor of Commerce and Industry, Western Reserve University. For sale by The Cleveland Heater Co., 2310 Superior Ave., Cleveland 14, Ohio. Issued in 2 Volumes, cloth bound, 7¼ × 4¾ in. Price $4.00.

These books outline modern Principles of Salesmanship and how they may be applied to meet post-war merchandising problems. They show the salesman that management is intensely aware of the problems he faces daily, and it is more than willing to assist him in finding a solution.

These books will help the salesman not only to see the management's view of his job more clearly, but also the aspect of his customer.

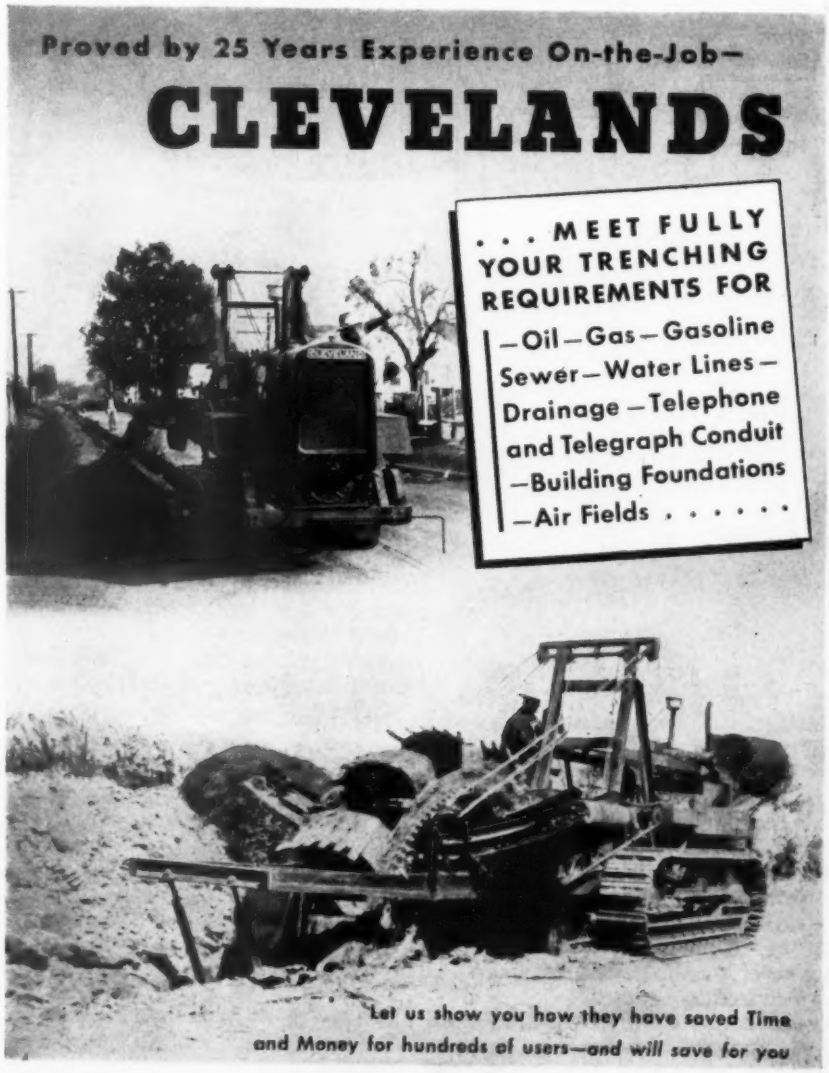
Volume I—The Principles of Salesmanship. Beginning with a discourse of the economical justification of the need of salesmen, it continues by explaining what salesmanship really is. This is followed by an explanation of the triads of sales effectiveness: the principles of business, economics, and ethics; people, what they are, why they buy; and how they buy.

Volume II—The Selling Process. This book discusses the preparation and the value of a planned presentation. How to get attention, how to create interest, how to overcome objections, and how to close are thoroughly analyzed. There are also suggestions for the salesman on how to prepare his own sales talk—this subject is discussed from all angles. Chapters on good-will and the follow-up have not been overlooked.

Geo. H. Smith Appointed Regional Manager, N. Y.

As part of their post-war plan for expansion and reorganization of the Sales Department, Mr. H. C. Erhard, Vice-President in Charge of Sales, Standard Gas Equipment Corporation, Baltimore, Maryland, announces the appointment of Mr. George H. Smith as Regional Manager of the Metropolitan New York, New Jersey and Eastern Pennsylvania territory. Mr. Smith will direct the sales of Oriole and Acorn domestic gas ranges in this area, and also of the Vulcan Hotel and Restaurant line in the Eastern Pennsylvania territory.

Mr. Smith has been associated with the Standard Gas Equipment Corporation since its organization in 1924, coming over to the Corporation with the Baltimore Gas Appliance and Manufacturing Company, when it was combined with the William M. Crane Company, and the Rathborn Sard Manufacturing Company, Aurora, Illinois, manufacturers of Acorn domestic ranges.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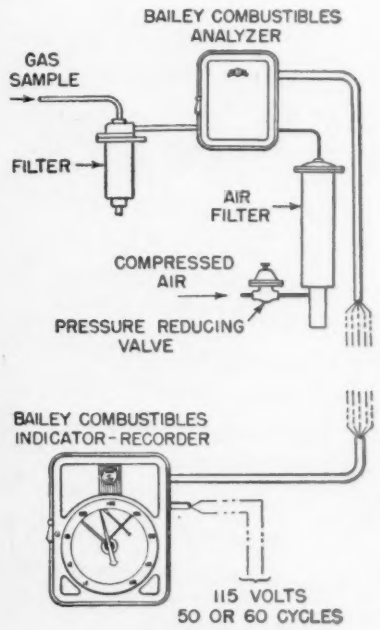
New Equipment

Combustibles Recorder-Controller

A new automatic analyzer and recorder for indicating, recording and controlling the combustibles content of a gaseous mixture, has been developed by the Bailey Meter Company, Cleveland 10, Ohio. This instrument has been successfully applied to precision control of furnace atmospheres and chemical processes, as well as combustibles measurements in the petroleum, metallurgical, automotive, and chemical industries.

The analyzer and recorder provide a continuous graphic analysis almost instantly, and they are said to be responsive to changes of .05% combustibles. Sustained accuracy is said to be within .25%.



Diagrammatic Installation.

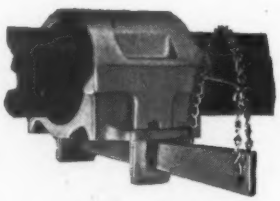
A continuous gas sample is mixed with compressed air and burned on a catalyst-filament which reaches a temperature proportional to the combustibles content. Since the filament resistance is a function of temperature, a simple resistance bridge connected to a null-balance electronic recorder completes the installation. It may be calibrated in per cent combustibles, mixture ratio, or other desired terms.

Pneumatic control or electric alarm contacts may be provided on both one and two-pen recorders. A two-pen recorder utilizes separate analyzers so that the speed is not impaired by switching, and the two records are independent of each other.

Presto-Lock Couplings

Fast coupling of pipe at low cost and with great flexibility is what is claimed by the manufacturer, Drinkwater, Inc., 2323 South Michigan Avenue, Chicago, for their flexible pipe couplings known as Drinkwater Presto-Lock Couplings. Presto-Lock Couplings are made in 11 sizes from 1¼" to 16".

Pipe Coupling Units and Assembly



An important feature of Presto-Lock Couplings is that they can be used with any plain end pipe without threads, grooves or flanges. No wrenches or special tools of any kind are required in assembly. Only a hammer is needed to tighten wedge keys after the two sections are fitted over pipe ends and wedge keys have been inserted in the key channels.

Sizes 1¼", 1½", 2", 2½", and 3" are equipped with one wedge key and chain assembly to prevent loss of coupling parts. Sizes 3" to 16" have two wedge keys but no chain assembly. Three types of gaskets may be used, these being synthetic rubber, neoprene and natural rubber.

Tests by the manufacturer show that these couplings give up to 40 degree flexibility at each joint. They can be used for repairing any size leak that the coupling will cover and they withstand all normal working pressures of gas, steam, oil and water.

Self-Contained Gasoline Hammer

The Syntron Company, 920 Lexington Avenue, Homer City, Pa., announces an improvement in the design of the tool retaining arrangement of its Self-Contained, Portable Gasoline Hammer Paving Breaker.

The nose-end arrangement has been redesigned to utilize the resiliency of a spring-tool retaining clip, as illustrated.

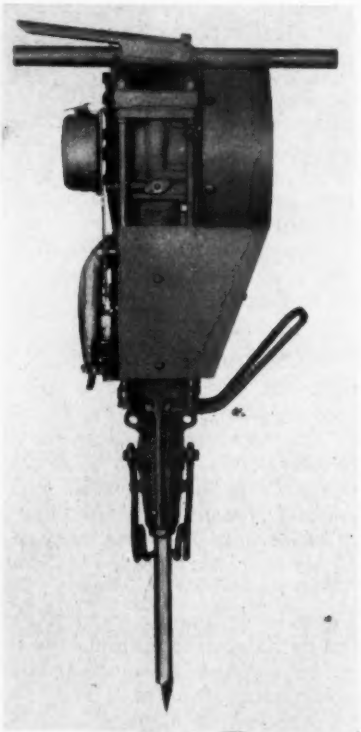
This eliminates the solid latch mechanism previously employed and commonly used in this type of demolition Hammer for retaining the Tool in the hammer.

The advantages of the resilient spring clip arrangement are threefold:

First, providing easy spring action of the tool itself when used at maximum over-travel.

Secondly, providing a quicker and easier method of changing tools used in the Hammer.

Thirdly, the elimination of broken retainer latches, nose castings, etc., because of a lack of resiliency in the retaining arrangement.



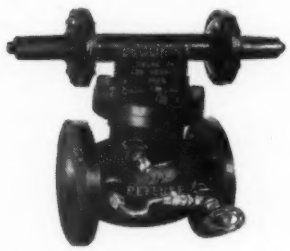
Syntron Paving Breaker

Additional information about these Gas Hammer Paving Breakers—the tools to be used with them—and the various uses to which they can be put—is available from the company on request.

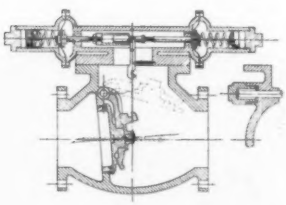
and Appliances

Automatic Shut-off Valve

Designed for installation in industrial plants as a protective measure against fire, damage and losses that may occur when lines are ruptured, flash-backs occur or pressures become unsafe, is the "Defense" Automatic Shut-off Valve for gases, oils and other liquids.



Security Shut-off Valve



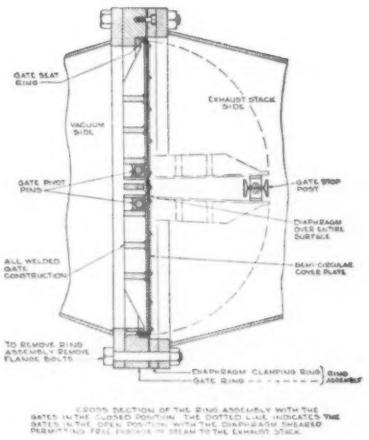
Security Valve Co., 410 San Fernando Road, Los Angeles 3, states that the valve is positive, instantaneous and accurate in its operation and can be relied upon to automatically close gas or oil lines in the event of their rupture by explosion, earthquake shock, flood, sabotage or accident; or when the pipe line pressure rises above or falls below safe predetermined maximum and minimum operating pressures.

Available in eight sizes, from 1¼" to 8". The 1¼" and 1½" sizes are screw type and those 2" and over are flanged.

Atmospheric Relief Valve

Shown herewith is diagram of a new atmospheric relief valve which protects a turbine against exhaust end damage should the unit go over to high pressure.

Unlike those of conventional design, it is light and compact, and requires no excess structure, stem, packing gland or water seal.



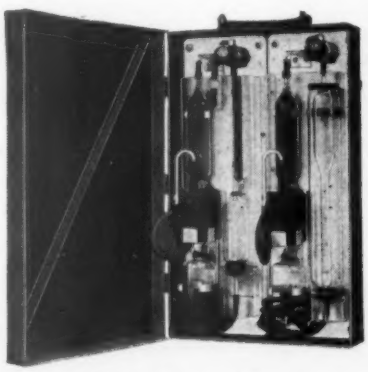
CROSS SECTION OF THE RING ASSEMBLY WITH THE GATES IN THE CLOSED POSITION. THE DOTTED LINE INDICATES THE GATES IN THE OPEN POSITION WITH THE DIAPHRAGM SHEARED PERMITTING FREE PASSAGE OF STEAM TO THE EXHAUST STACK.

The valve is so designed that upon reversal of pressure, a very thin lead disc or diaphragm is sheared mechanically by swinging gates. (See illustration) This shearing is accomplished well below the allowable turbine exhaust end pressure. Once the valve has been called upon to operate, replacement of the diaphragm is relatively simple.

Available in sizes from 6" to 42" to relieve from 10,000 to 550,000 lbs. of steam per hour, this valve is of all-welded construction, and its cost is considerably lower than that of standard relief valves. Complete descriptive literature is available from M. L. Bayard & Company, 1973 Indiana Ave., Philadelphia 32, Pa.

Gas Analyzer

The Hays Corporation, Michigan City, Indiana, announces the development of a special analyzer for testing the high purity of oxygen, carbon dioxide, and nitrogen in the range from 90% to 100%.



Hayes Gas Analyzer

It is offered in two styles—a wall mounted model for permanent installation and a portable model supplied in a neat metal case with leather carrying handle. It may be had with a single unit or with two units. A junior model (Series EJ) is also obtainable with a burette capacity of 30cc. The smaller model measures 6¼" x 9⅝" x 3¾" and weighs, fully charged, less than six pounds.

All models feature a new four- those interested.

New Plastic Pipe Seals in Countersunk Pattern

Plastic Pipe Seals and Thread Protectors in countersunk pattern are now announced by American Molded Products Company, 1644 N. Honore Street, Chicago 22, Illinois.

The strength and lightness, as well as the toughness of plastic make it preferred material for pipe seals and thread protectors. Plastic takes accurate and durable threading, is non-corrosive, dielectric, and most efficiently excludes moisture, oil, dirt, grit, etc.

Countersunk Pipe Seal

The square sockets of American Molded's new countersunk pattern are of dimensions to fit commercial square bars of standard sizes. Dimensions are the same as the maximum size of cold rolled square steel bars given in A.S.T.M. Specifications.

Sizes available: ⅛", ¼", ⅜", ½", ¾", 1".

News of the Gas Industry

Industrial and Commercial Gas Conference to be Held in Toledo

Harry A. Sutton, Chairman of the Industrial and Commercial Gas Section, has announced that the 1946 American Gas Association Conference on Industrial and Commercial Gas will be held in Toledo, Ohio, Thursday and Friday, March 28th and 29th at the Commodore Perry Hotel.

A program of value to all industrial and commercial gas men and appliance and equipment manufacturers is being planned by the Program Committee under the chairmanship of Ralph S. Wenner. The object of this conference, through the subjects to be discussed and the personal contacts which will be made, is to aid the industrial and commercial branches of the gas industry in the continuance of their efforts to have the service rendered by the gas industry used most extensively and efficiently during the reconversion and postwar periods.

Technical Section A.G.A. Announces Conference Dates

Lester J. Eck, Vice President, Minneapolis Gas Light Company, Chairman of the Technical Section of the American Gas Association, announced at the organization meetings of the Section, recently held at the Claridge Hotel in Atlantic City, that arrangements were made by the Gas Production, Chemical, Distribution and Motor Vehicle Committees, to hold their Annual Conference as follows:

Distribution and Motor Vehicle Conference, at the Hotel Stevens, Chicago, Ill., on April 16, 17, and 18, 1946.

Joint Production and Chemical Committee Conference at the Hotel Pennsylvania, New York City, June 3, 4, and 5, 1946.

Programs are well under way and the customary and ever-popular Round Table Luncheon Conferences will play an important part.

Independent Natural Gas Assn. Meeting Set for January 28th

Because of the most recent action of the Federal Power Commission again changing the time and place for its Texas hearing in the natural gas investigation, the Independent Natural Gas Association of America accordingly has found it necessary to revise its plans concerning the Association's annual membership meeting.

It has been the purpose of those in charge of arranging the I.N.G.A.A. meeting to hold the affair at the place and time of the F.P.C. Texas hearing. For that reason the Association annual membership meeting originally was scheduled for Dallas, Texas, on November 26 and subsequently was postponed until December 10 in Dallas so that those desiring to attend the meeting could be on hand for the beginning of the Texas F.P.C. hearings.

Since the F. P. C. has now scheduled its Texas hearings for January 28 at Houston, the Association has decided to hold its annual membership meeting at the Texas State Hotel in Houston on January 28.

All other arrangements for the Association annual membership meeting will be carried out as previously announced.

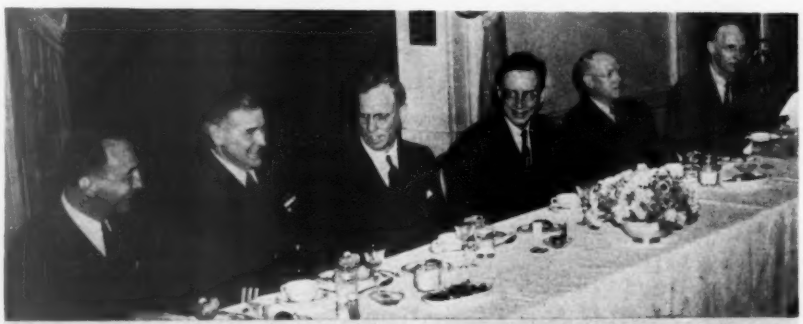
First Commercial Plant for Manufacture Of Gasoline From Natural Gas

The first commercial plant in the world for the manufacture of gasoline from natural gas will be built in Carthage, Texas, starting next February, and this plant alone will potentially double our supply of petroleum, J. D. Ratcliff, science authority, reveals in a signed article in Collier's Weekly.

The synthetic gasoline will be manufactured by a new process developed by Hydrocarbon Research, Inc., of New York, which was organized by P. C. Keith, a top chemical engineer who was born in Texas, according to the article. The process is said to have already been used successfully in two pilot plants.

"For years now, calamity criers have been telling us that the end of our petroleum was in sight," Ratcliff says. "The plant at Carthage puts a new light on this gloomy picture. It will make synthetic gasoline at a price so low that it will compete with gasoline from petroleum."

Ratcliff reports that the Carthage plant, costing $15,000,000, will produce 5,000 barrels of gasoline and 1,000 barrels of Diesel oil per day. It is said that the gasoline will rank better than 80 octane, or the equivalent of current premium fuels.



A.G.A. TECHNICAL SECTION MEETINGS AT ATLANTIC CITY, N. J.

Above: Luncheon Table during Organization Meetings for 1945-46, Technical Section, A.G.A., Atlantic City, New Jersey, November 12-13, 1945, showing guests recently returned from Overseas inspections.—Left to right; L. L. Newman, U. S. Bureau of Mines, Washington, D. C., Commander E. S. Pettyjohn, U. S. Navy, Washington, D. C., Lester J. Eck, Minneapolis, Minn., Chairman Technical Section A.G.A., Dr. H. H. Lowry, Carnegie Institute of Technology, Pittsburgh, Pa., Dr. A. R. Powell, Koppers Company, Inc., Pittsburgh, Pa., A. Gordon King, Secretary Technical Section, A.G.A., New York.

Below: The 1945-46 Committee on Operation of Motor Vehicles in Session. Seated at extreme right of table, is S. G. Page, Chairman, Pittsburgh, Pa., and seated at extreme left of table, B. D. Connor, Vice Chairman, Boston, Mass.

Starting in the January, 1946 Issue, Commercial Water Heating

A series of articles will start in the January issue of the Journal on the subject of Commercial or Large Volume Water Heating.

The author, Mr. Malcolm B. Mackay, served three and one-half years with the Fuel and Heating Section Utilities branch of Office of the Service Command Engineers, Fourth Service Command Headquarters, Atlanta, Ga.

He originated and developed the Booster-Recovery (two temperature) Water Heating System in which a single water heater and hot water storage tank function both as a Recovery System to maintain a reserve supply of hot water at moderate temperature and also as a Booster Heater to raise the stored hot water to higher temperatures as needed intermittently to supply specific requirements.

This series has been prepared in the belief that, if the approach to the problem of correctly analyzing Large Volume Water Heating problems and applying the correct solution is to be lifted out of the guessing game category, proper consideration of this subject must necessarily comprehend a basic understanding of certain, related phases of the subject—all of which are inter-dependent. While essentially of a technical nature, there has been a conscious effort by the author to present the subject matter in a manner which will be readily understandable by the non-technical layman—the Commercial Gas Salesman—the Installer—and the Service Man whose responsibility it is to maintain the equipment—as well as the Engineer or Architect concerned with the correct type of Water Heating System to be employed and the correct capacity and proper layout required to supply a specific Hot Water Demand.

"Gas Analysis and Testing of Gaseous Materials"

The Technical Section of the American Gas Association has sponsored and published an authoritative book entitled: "Gas Analysis and Testing of Gaseous Materials," by V. J. Altieri, B.S., Chief Chemist, Eastern Gas and Fuel Associates, Boston, it was announced by Lester J. Eck, Chairman of the Technical Section.

Mr. Altieri, also author of "Light Oils and Light Oil Products," was formerly chairman of the Chemical Committee of the A.G.A. He was assigned by the A.G.A. Committee on Revision of the Gas Chemists' Handbook, of which Mr. E. L. Sweeney, Boston Consolidated Gas Company is chairman, to revise the gas analysis chapter of the handbook, long since out of print but still in big demand, and to cover important subjects listed by the revision Committee. New subjects constitute about three-fourths of the text, so the result has been a comprehensive book for gases and gases containing varying amounts of liquids and solids, Mr. Eck declared. The Chemical Committee of the A.G.A., through its chairman, Dr. Channing W. Wilson, Consolidated Gas Electric Light & Power Company, of Baltimore, has endorsed the new publication.

The new book, containing 560 pages of practical information for the chemists, engineers and technicians of the industry, is now on sale at the headquarters of the American Gas Association, 420 Lexington Ave., New York 17, N. Y. It is priced at $5.00 to members and $7.50 a copy to non-members.

The table of contents discloses chapters on kinds of materials, processes, properties and compositions of gases, measurement of quantity and flow, selection of method of sampling, operations and calculations of gas analyses. Other chapters are devoted to specific methods, tests and facilities showing usefulness of gas analyses and testing of materials and processes in the gas phase. Pages are 6 inches by 9 inches, profusely illustrated and the volume is thoroughly indexed.

State Opposes Sale of Atlanta Gas Light Co. to Southern Natural Gas Co.

The Georgia Public Service Commission nas intervened in opposition to the proposed purchase of the Atlanta Gas Light Company by the Southern Natural Gas Company, and also started an investigation of the rates that the Natural Gas Company has been charging the Atlanta company.

Chairman Walter McDonald, of the Georgia Commission, pointed out that the Georgia Commission has on two occasions urged former Chairman Basil Manley, of the Federal Power Commission, to investigate the contract between the Southern Natural Gas Company and the Atlanta Gas Light Company.

The commission has concluded that control of the Atlanta distributing company by the pipe line supplying company would be detrimental to the public interest and to the interests of gas consumers since the resulting interlocking control would completely remove arm-length bargaining and impair future regulation of the cost of gas purchased by the Atlanta Gas Light Company from the Southern Natural Gas Company.

Hoosier Gas Corporation

The purchase of the Wabash Public Service Corporation by Hoosier Gas Corporation, of Vincennes, Indiana, has been announced by E. J. Meade, President of the Hoosier Gas Corporation.

The Wabash firm supplies natural gas to Bicknell, Wheatland, Monroe City, Petersburg, Francisco, and Oakland City, and owns extensive pipe lines throughout this section of Indiana. The Hoosier Gas Corporation will absorb the Wabash interests and continue service.

A hearing on the purchase was held by the Indiana Public Service Commission on October 25th and approved on October 31st.

Mr. Meade and his associates bought the Hoosier Gas Corporation on November 16, 1944.

Vincennes will continue to be the headquarters of the company which now supplies gas to Vincennes, Washington, and Princeton, Indiana.

Texas Plant for Bryant Heater Co.

Bryant Heater Company, Cleveland, Ohio, one of the operating companies of Dresser Industries, Inc., will manufacture water heaters, floor and sidewall furnaces, and unit heaters in a plant now being built in Tyler, Texas, it has been announced by Lyle C. Harvey, President of Bryant.

The geographical location of Tyler with relationship to the Southern market for water heaters was a major factor in the selection of the location, Harvey said.

The plan, which is to cover 110,000 square feet is due to be completed shortly after the first of the year. The plant will employ between 150 and 250 men.

General Controls Appoints Kansas City Manager

The appointment of Mr. Robert C. Allen, Jr., as Manager of the Kansas City, Missouri, Factory Branch was recently announced by Mr. J. F. Ray, Director of Sales, General Controls Company, Glendale, California.

Mr. Allen will devote his entire time to serving users of Automatic Pressure, Temperature and Flow Controls in Missouri, Kansas, Eastern Nebraska and Western Idaho.

Domestic Gas Copy Committee Meets at St. Louis

With practically a 100% attendance, the A.G.A. Sub-Committee on Approval of Domestic Gas Copy met in St. Louis for a hard-working two-day session on November 14 and 15. Joining the meeting as consultants to the Committee, were six staff members of the New York office of McCann-Erickson and three representatives of the Laclede Gas Light Company. J. J. Quinn, chairman of the committee, presided.

Some of the subjects on the heavy agenda were: current publicity activities, readership ratings of the national ads for the first six months of 1945, report on tests of kitchen color combinations, discussion of the CP trade-mark, progress report on the proposed New Freedom Gas Kitchen booklet, discussion of policy on developments in kitchen ventilation and a report and discussion on radio.

The Committee voted to retain the present campaign without any major departure in theme or objective. There will be a slight shift of emphasis in the so-called New Freedom Gas Kitchen ads starting with March and April insertions. The text of these ads will contain more specific selling copy on the latest developments to be found in gas appliances.

The Committee was of the opinion that the present campaign is one of the most effective developed in the nine years of national cooperative advertising in behalf of gas fuel and gas appliances.

Those who attended the session included W. H. McInnis, Ebasco Services, N. Y.; Thos. H. Spain, Public Service Electric & Gas Co., Newark, N. J.; Miss Noel Mallaby, McCann-Erickson; Clayton G. Cassidy, The Peoples Gas Light & Coke Co., Chicago; Frank C. Packer, Payne Furnace & Supply Co., Beverly Hills, Calif.; Newell E. Loomis, Michigan Consolidated Gas Co., Detroit; Col. John H. White, Jr., A.G.A.; Miss Gussie O. Jones, Atlanta Gas Light Co.; W. L. Hutcheson, Manufacturers Light & Heat Co., Pittsburgh; Miss Margo Sherman, McCann-Erickson; J. J. Quinn, Boston Consolidated Gas Co.; C. W. Person, A.G.A.; Alfred Hirsh, Laclede Gas Light Co., St. Louis; W. C. Grant, Lone Star Gas Co., Dallas; G. A. Saas, Citizens Gas & Coke Utility, Indianapolis; L. C. Ginn, American Stove Company, Cleveland; W. M. Jacobs, Southern California Gas Co., Los Angeles; Arthur P. Kelly, Rochester Gas & Electric Corp.; Wm. B. Hewson, The Brooklyn Union Gas Co., Brooklyn, N. Y.

Also R. K. Stover, McCann-Erickson; W. E. McKeachie, McCann-Erickson; R. D. Lewis, Laclede Gas Light Co.; Kenneth Fellows, Houston Natural Gas Corp.; R. J. Canniff, Servel; Henry Obermeyer, Consolidated Edison Co. of New York; R. J. Vandagriff, Laclede Gas Light Co.; Wm. Harrison, McCann-Erickson; Thos. P. McMahon, McCann-Erickson; H. Vinton Potter, A.G.A., and Roger A. Gordon, Washington Gas Light Co.

Gas Ranges Will Have All Features Consumers Want, Post-War Surveys Show

If surveys of post-war "wants" are any indication, the homemaker will have everything she is asking for in gas ranges as soon as materials are available, according to James I. Gorton, "CP" Promotional Director of the Association of Gas Appliance & Equipment Manufacturers.

Studies indicate that the post-war features women want and "must have," are oven heat controls, ovens and broilers that light automatically, simmer burners, low temperature ovens, easy-to-clean smokeless broilers, higher speed burners, automatic oven clock controls to turn the cooking on and off, waist-high broilers and cooking unit arrangements that provide more usable working surfaces. All of these, with the exception of the last three, were among the requirements for gas ranges built to "CP" standards before the war. Automatic clock controls, waist-high broilers, deep well cookers, warming ovens, and other "wants" have been available for sometime in many models made by manufacturers of "CP" models.

As in most products, the first gas ranges manufactured in volume, will, with some new features, be similar to the last ranges produced before the war restrictions curtailed production.

Capt. Treadway Returns To Treadway Inc.

Captain Robert H. Treadway, who for the last four years has been with the Army, has returned to resume his connection as Sales Engineer with A. A. Treadway, Inc., of Detroit, distributors of Industrial Gas Heating Equipment.

Captain Treadway's last assignment was with the 48th Tank Battalion in the 14th Armored Division in their drive into Germany which finally ended up near Munich.

AMERICAN GAS ASSOCIATION ST. LOUIS REGIONAL MEETING

The St. Louis regional meeting of the American Gas Association attracted an attendance of 85 persons. Gas companies represented at the September 25 meeting included Laclede Gas Light Co., St. Louis; St. Louis County Gas Co.; Citizens Gas Co., Hannibal, Mo.; Citizens Gas and Coke Utility, Indianapolis, Ind.; Missouri Edison Co., Louisiana, Mo.; Union Gas System, Inc., Independence, Kansas; National Gas Co., Sikeston, Mo.; Kansas City Gas Co., Kansas City, Mo.; Gas Service Co., Kansas City, Mo.; Wyandotte County Gas Co., Kansas City, Kansas; Arkansas-Louisiana Gas Co., Little Rock, Ark.; Missouri Gas & Electric Service Co., Marshall, Mo.; Union Electric Power Co., Washington, Mo.

Left to Right: F. W. Williams, secretary of the A.G.A. residential gas section, New York City, reminds listeners that "Green troops don't win battles" in discussing sales training programs for gas companies. H. Preston Morehouse of Public Service Electric & Gas Co., Newark, N. J., vice chairman of the A.G.A. committee on housing and chairman of the committee on publicity and specifications, offered the gas company officials his committee's findings on successfully selling the new home market. Chairman of the St. Louis A.G.A. meeting, R. J. Vandagriff, general sales manager of Laclede Gas Light Co., F. M. Rosenkrans, general sales manager of Gas Service Co., Kansas City, Mo., studies the Janitrol Quick-Getaway Plan presented to gas utility companies at the St. Louis A.G.A. meeting.

Midwest Personnel Conference of A.G.A. at Kansas City

The sixth meeting of the A.G.A. Midwest Personnel Conference was held in Kansas City on November 8 with R. B. Harkins, Personnel Director, Panhandle Eastern Pipe Line Company as Chairman. The meeting was opened by some observations on current industrial relations problems from a national standpoint, reported by Kurwin R. Boyes, Secretary of the American Gas Association.

The resignation of Mr. Harkins as Chairman of the Conference was received with regret. A resolution was adopted expressing the appreciation of Mr. Harkins' efforts in organizing the group and for his conscientious leadership as Chairman. Acting on the recommendations of a Nominating Committee, the Conference elected as Chairman C. C. Jolley, Personnel Director of the Natural Gas Pipeline Company, Chicago, and as Vice Chairman H. F. Voertman, Assistant Vice-President of The Laclede Gas Light Company, St. Louis.

C C. Jolley

H. F. Voertman

Considerable time was advantageously devoted to the reporting and discussion of union contract developments of the companies represented at the Conference which naturally centered on the problems involved in returning to a normal work week.

At the afternoon session Gerald Cole, Veterans' Training Officer of the Veterans Administration, informatively outlined the operations of the Government's vocational rehabilitation program for veterans under public laws 16 and 346—"G. I. Bill of Rights," and answered a number of questions raised concerning company responsibilities, etc. It was stated the demands of veterans is creating the necessity of company participation in the program in the interests of public relations.

Mr. M. E. Jones, Chief of Veterans Replacement of the United States Employment Service, explained the operations which attempt to place the returned veterans in a job to the interest of both employer and veteran. Mr. Jones stated that in face of numerous magazine and press articles, the great majority of returning veterans are mentally and physically equipped for employment.

The remainder of the meeting was devoted to a discussion of specific problems on such matters as merit rating systems, handling of returned veterans, employment of married women, etc. It was agreed the Conference suggest to the incoming Chairman that the next meeting be held January 8 in Omaha, Nebraska.

Koppers Co. Announces Recent Appointments in Eng. Div.

Dr. Walter C. Rueckel, general superintendent of operations, Koppers Company, Inc., Engineering and Construction Division, has been appointed New York district sales manager of the division with headquarters in New York offices of the company, 60 E. 42nd Street, it is announced by Joseph Becker, vice president of Koppers. Dr. Rueckel has been with Koppers since 1938.

Elliott Preston has been appointed general superintendent of operations to succeed Dr. Rueckel. He formerly was assistant general superintendent and has been with Koppers since 1924.

Joins Pemco Sales Staff

Edward D. Ayers has been appointed to the position of service engineer for the Pittsburgh Equitable Meter Company. He recently received his honorable discharge from the U. S. Army, in which he enlisted in 1940 following graduation from high school. Mr. Ayers served as Staff Sergeant with the First Division, Regular Army, Fifth Field Artillery, and was in the African, Sicilian and D-Day campaigns.

Following a period of training at the Pittsburgh Equitable Meter Company plant in Brooklyn, N. Y., Mr. Ayers will represent the firm in the eastern part of New York State, operating from the New York City district office under the supervision of M. J. Harper, District Manager.

CONVENTION CALENDAR

January

28 *Independent Natural Gas Assn. of America,* Annual Meeting, Texas State Hotel, Houston, Tex.

28 *F.P.C. Natural Gas Hearing,* Houston, Tex.

February

4-8 *American Society for Metals,* 27th National Metal Exposition, Public Auditorium, Cleveland, Ohio.

11 *Federal Power Commission Hearing,* Biloxi, Miss.

19 *Federal Power Commission Hearing,* Chicago, Ill.

March

19 *Federal Power Commission Hearing,* Charleston, W. Va.

21-22 *New England Gas Association,* Annual Business Conference, Hotel Statler, Boston.

21-22 *Southern Gas Association,* Galveston, Tex.

28-29 *American Gas Assn.* Conference on Industrial and Commercial Gas, Commodore Perry Hotel, Toledo, Ohio.

April

8-10 *Mid-West Gas Association.*

16-18 *A.G.A. Technical Section,* Motor Vehicle Conference, Hotel Stevens, Chicago.

May

7-9 *National Association of Corrosion Engineers,* Annual Meeting and Convention, President Hotel, Kansas City, Mo.

17-24 *International Petroleum Exposition,* Tulsa, Oklahoma.

June

3-5 *American Gas Association Joint Production and Chemical Committee Conference,* Hotel Pennsylvania, New York.

18-21 *Canadian Gas Association,* 39th Annual Convention, Manor Richelieu Hotel, Murray Bay, P. Q., Canada.

SUPERIOR GAS METERS

For Sound Values and Continuous Operating Economy

Meters for Domestic and Industrial Use. All Sizes 5B to 60C.
Wet Test and Demonstration Meters — Diaphragms —
Service Cleaners — Provers — Meter Repairs

Write for details and quotations

SUPERIOR METER COMPANY, INC.

167 41st Street ***Brooklyn, N. Y.***

The Estate Stove Company Presents Plans for "Dreamlined" Kitchens

Coining a new word, which seems quickly to have caught the popular fancy, the merchandising department of The Estate Stove Company, Hamilton, Ohio, is presenting plans for three "dreamlined" kitchens.

The designs are by Henry Wilder, a foremost designer in the field of home furnishings. According to the manufacturer, they are based on an exhaustive study of the best practice in the field of kitchen coordination and a careful consideration of available equipment.

The color schemes and suggested treatments of walls and floors are by the Bureau of Interior Decoration of The Armstrong Cork Company.

Included among the unique features in the several designs are: a gracefully curved cornice board over the sink and range to conceal fluorescent lighting; a combined breakfast nook and baby's play pen; glass bricks in the walls just above the counter tops to provide light for these work areas; a sturdy meat-cutting block; a breakfast bar with chairs designed to fit flush, cabinet style, when not in use.

The three designs, done in water color, are reproduced in full size (20" x 25"), mounted on heavy board and framed for dealers' show windows and walls. In connection with each of these displays, the factory is furnishing the dealers, through its distributors, a descriptive pamphlet with a floor plan and detailed specifications. Even the linoleum patterns, the color and make of paint for the walls, and the design of the wallpaper are included in the specifications.

New Display and Sales Store for Kalamazoo

A new type of experimental store is being set up by Kalamazoo Stove and Furnace Company in the recently purchased Bates Building, in the center of Kalamazoo's business district, Kalamazoo, Michigan, according to Arthur L. Blakeslee, president.

The store, planned by Jack Morgan, Chicago designer, will serve as an experimental establishment where methods of display, merchandising plans and other phases of retail distribution will be tried out before being installed in retail stores. A model business accounting method—developed within Kalamazoo's own branches during pre-war years—will be set up for study. Display units for large and small stores will be worked out. The model outlet will promote and sell the company's full line of stoves, refrigerators, washing machines, heaters and furnaces.

Model kitchens in basic kitchen types will be built and completely furnished according to a "work center" plan in which storage and work space allotment is broken down to fit kitchen functions. The cooking center, for instance, includes—besides the stove—room for storage of cooking utensils, spices and other staples used in cooking, counter space for filling plates right at the stove.

One floor of the new building will be turned into a sales training school for members of its selling staff, branch managers and franchise dealers. Here a home economist will demonstrate cooking methods in one of the model kitchens.

Universal Gas Range Rides Aloft

A Universal gas range was a part of the cargo in the epic-making, Chicago-to-London flight conducted by American Airlines System on November 19th. The range was consigned to the British Ministry of Supply by the A. J. Alsdorf Company, export agent for Cribben and Sexton Company.

Thousands viewed the huge plane at Chicago's Municipal Airport on November 18th, when christening ceremonies included speeches by Chicago's Mayor Kelly and Governor Green of Illinois. Among those present on the speaker's platform were George D. Wilkinson, President of Cribben and Sexton Company, and other company officials.

This is the second history-making event in recent months that has focused nation-wide attention on the gas industry. On July 11, 1945, Cribben and Sexton Company shipped fifty-five gas ranges via American Airlines from Chicago to Los Angeles in only 10½ hours. This was the first time in aviation history that a full freight carload of durable goods was ever shipped across the country and it was the prelude to the dramatic, epic-making, trans-oceanic flight on Monday.

Mr. George D. Wilkinson said at the christening ceremonies: "It is significant to note that a gas range, typifying America's most modern cooking service, has been included in the cargo of this flight which is a forerunner of America's newest field of endeavor for world trade and world good neighborliness."

Aviation Corporation Enters the Gas Range Field

The Aviation Corporation shortly will begin large-scale production and marketing of new gas and electric kitchen ranges as part of its peacetime reconversion program, it has been announced by Irving B. Babcock, President.

The range, which is radically different in design and performance, will be on the market early next year. It was engineered and developed at the Corporation's laboratories in Detroit under the direction of Dr. J. A. Snow, research scientist.

Dealers and distributors throughout the country have given evidence of wide interest in the product, Mr. Babcock said.

"We have devised a method of manufacturing a luxury range that is physically stronger. Construction of the new range lends itself to low-cost mass production methods.

"Although its appearance is much like the conventional, modern range, both Avco gas and electric designs are equipped with high-level broilers."

Special features of some models include processed distribution of heat, interchangeable parts ,and a one-piece "waterfall" top which rises 18 inches to facilitate the cleaning of burners.

Guide for Home Planners

"Let's Plan a Peacetime Home" is the title of an informative and colorful book published by Surface Combustion Corporation. Size 8½ x 11, 114 pages.

The authors, all prominent home planning authorities, are Mary Davis Gillies, interior decorating editor of McCall's Magazine; Kenneth K. Stowel and Emerson Goble, editor and managing editor of Architectural Record; and H. V. Walsh, architect, writer and a professor of architecture.

The 114-page book discusses functional planning, how to plan rooms, architectural styles, kitchen planning, arrangements for making household duties simpler, and one of the sections has helpful advice on the business side of building a house. The heating section discusses all popular types of fuels and heating systems, including radiant and solar heating.

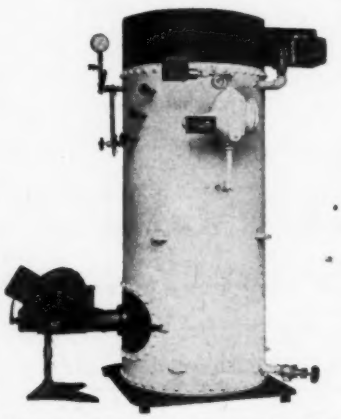
Leading architects from many sections of the country have contributed with sketches and photos of outstanding modern homes suitable for their parts of the country.

A special section on modernizing old homes shows by plans and photos what has been accomplished by other home owners. It points out the principal considerations in such an undertaking, structurally and economically.

The purpose of the book is to help the home planner to get his ideas down on paper and clearly understood so that the architect or builder will be better able to carry out his wishes.

The price of the book is $1.00 and it may be obtained from Surface Combustion Corp., Toledo 1, Ohio.

LATTNER GAS — OIL BOILER 3 HP to 35 HP.



Burns natural gas or regular furnace oils with equal efficiency using same burner.

P. M. Lattner Mfg. Company Cedar Rapids, Iowa

Cribben and Sexton Company Announces Three New Appointments

In conjunction with their greatly expanded sales and promotional programs, Cribben and Sexton Company, manufacturers of Universal Gas Ranges, announce the appointment of three men to positions within their organization: Fred F. Lauer, Eastern Sales Manager; John J. Brandt, Advertising Manager; Frank E. Brown, New England District Sales Representative.

Fred F. Lauer

Mr. Lauer, who has been Cribben and Sexton District Representative in Western New York for the past fourteen years, will move from Buffalo to Newark, where he will direct all sales activities in the New England and Middle Atlantic States.

John J. Brandt

Mr. Brandt comes to Cribben and Sexton headquarters in Chicago from Buffalo, New York, where he had directed advertising for the Iroquois Gas Corporation for the past ten years.

Mr. Brown rejoins the company after a leave of absence of three years extent when he was engaged in war production. He is located in Boston, Massachusetts.

Woodall Retires, Donnelly in New Post with A. O. Smith Corp.

Because of the threat of a recurrence of an old illness, J. E. Woodall has resigned from the A. O. Smith Corporation.

Starting in 1940, as Sales Manager of the newly-formed Home Appliance Division, Mr. Woodall has been prominently identified with the development of the Smithway line of Permaglas Water Heaters.

J. E. Woodall Jim Donnelly

Jim Donnelly, formerly Sales Manager of Smithway gas water heaters, has been appointed Product Supervisor of the entire Water Heater Division.

Mr. Donnelly's appointment follows a long association with the water heater, plumbing and heating, and utility fields and eminently fits him to guide the anticipated post-war expansion plans of the Company's water heater program.

R. M. Deanesley on Research Staff of Universal Oil

R. M. Deanesley, recently with M. W. Kellogg Company and Kellex Corporation, has joined the research staff of Universal Oil Products Company. He will be in charge of a new department which is being established in the company's Riverside laboratories.

While with the Kellex Corporation, he did important work in connection with the separation of U-235 by gaseous diffusion. This is one of the ways in which atomic bombs were produced.

Born in England and educated at Oxford and at University College, London, Mr. Deanesley has had extensive experience in the petroleum industry, especially in the light hydrocarbon field, having been associated with Shell Development Company for 15 years before joining the Kellogg organization.

Brooks Rotameter Company Locates at Lansdale, Pa.

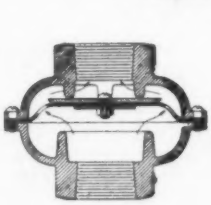
Stephen A. Brooks and seven associates, each with extensive experience in rotameter manufacture and application, have organized the Brooks Rotameter Company, a corporation capitalized at $100,000. A factory with 18,000 square feet of floor space has been acquired at Lansdale, Pa., and manufacture has been started upon all types of rotameters for flow rate measurement control.

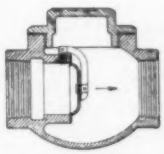
Stephen A. Brooks

The Company will specialize in rotameter flow rate measuring and controlling instruments, designed to meet the difficult services and corrosive atmospheres encountered in the process industries.

Brooks is a graduate chemical engineer with wide experience in chemical manufacturing and instrumentation. For the past six years he has been Vice President of Fischer & Porter Company in charge of sales and advertising. The eight men founding this new Company have an aggregate of 40 years of experience in rotameter engineering, an average of 5 years per man. The exact address of the Company is Brooks Rotameter Company, Box B-5111, Lansdale, Pa.

Pressure Controls for Gas and Air





NORWALK VALVE COMPANY

35 Railroad Ave. South Norwalk, Conn.

Hotel Exposition Features Gas Appliances

Over 50,000 visitors from all over the country crowded the aisles during the thirtieth National Hotel Exposition held at the Hotel Commodore in New York City, November 12th-15th. Most of the visitors had but one objective—to buy replacement or new equipment for their establishments. The tremendous back-log of buying power was evidenced in the volume of orders placed in all fields of the hotel and restaurant business.

Among the 128 exhibitors, there were many featuring food service equipment, of which gas appliances played a prominent part. Coffee urns, coffee makers, sterilizers, counter type broiler-griddles represented the lighter gas appliances. The 77th Annual Salon of Culinary Art organized by the Societe Culinaire Philanthropique, Inc., an organization of leading chefs, featured heavy duty gas equipment. A committee of the World's Premier Chefs under the chairmanship of Chef Joseph Donan planned and arranged *The Hotel Kitchen of Tomorrow* which attracted widespread attention. A steady stream of interested visitors filed past the modern twelve foot gas range flanked on either side by heavy duty broilers. Further along was a four deck cabinet type bake oven.

Gas fired deep fat fryers, and large capacity steam pressure cookers were also included in the main display. Cooking utensils, meat grinders, power driven meat saws and other kitchen accessories completed the presentation which was arranged before a backdrop of large photographs of hotel kitchens.

Sales staffs of exhibitors mingled with purchasing agents, managers and stewards from hotels, clubs, hospitals, schools and other institutions. A large number of members of gas utility hotel and restaurant sales divisions attended the Exposition as did representatives of the manufacturers and distributors which gave all concerned the opportunity of discussing trade problems.

During the afternoon of November 14th in connection with the hotel show, the Food Service Equipment Industry, Inc., held its meeting at the Hotel Roosevelt where dealers and manufacturers exchanged views on the postwar reconversion situation. The phases of production, materials and possible delivery schedules of both manufacturers and dealers were covered by several men representing their particular sections of the food service equipment business. One of the outstanding talks at this meeting was given by Frank H. Trembly, Jr., The Philadelphia Gas Works Company, representing the American Gas Association on the need for postwar cooperation between utilities and commercial cooking equipment dealers. It appears elsewhere in this issue.

The general over all impression gathered at both the National Hotel Exposition and the F. S. E. I. meeting was that at the present time the deliveries on heavy duty gas equipment would be slow, but a gradual improvement was looked for during the first part of 1946. In the field of smaller gas appliances for commercial use, the manufacturing and delivery problem was rapidly approaching a normal rate.

L. E. Clancy Sales Manager

John A. Fry, President of Detroit-Michigan Stove Company, has announced the appointment of L. E. Clancy as Sales Manager, Garland Commercial Equipment. He succeeds the late E. J. Shermire. The appointment was effective November 1, 1945.

L. E. Clancy

Mr. Clancy has been associated with Detroit-Michigan Stove Company since 1924. He was Advertising Manager from 1931 until 1944, when he was made Sales Promotion and Advertising Manager. In his new post, Mr. Clancy will continue under the direction of John C. Pankow, Director of Sales.

Consolidated Edison Installs L. P. Gas for Peak Loads

Consolidated Edison Company of New York, Inc., is now increasing its gas manufacturing facilities by 10,000,000 cubic feet of gas a day by installing a propane or liquefied petroleum gas plant for emergency or "peak" demands. The installation, consisting of fourteen 25,000 gallon storage tanks, is being made at the company's Hunts Point plant in the lower Bronx, and will be completed before the high demand for gas during the cold spells of the coming winter.

The installation at the Hunts Point plant is being made by the Pacific Gas Corporation, of San Francisco, California. Similar installations are being made in cities on the Eastern seaboard, and hundreds have been made throughout the country. In some instances, small cities and communities depend entirely on propane plants for their supply of gas.

With Consolidated Edison, however, the use of the propane gas plant probably will be confined to the few days in winter when a protracted cold spell brings customer demand for gas close to the capacity of the company's gas plants. Upon completion of the propane plant, it is expected that the existing coke oven and water gas plants of the company will continue to be used as at present, with the gas from the propane plant added at times of emergency to care for peak demands caused by zero and sub-zero temperatures.

LPG Production and Use Trebles

A survey made by the LPG industry under the direction of the Petroleum Administration for War, shows that the production and use of liquefied petroleum gases, including the separate fractions and mixtures of propanes and butanes, was 1.6 billion gallons in 1943, 3.8 billion gallons in 1944 and 4.8 billion gallons in 1945. This is a 3-fold increase during the period surveyed.

CONNELLY IRON SPONGE

High in efficiency . . . low in cost. In hundreds of plants throughout the country, Connelly Iron Sponge has proven itself . . the finest purification material on the market. Not only does it lower your purifying cost but its high activity and capacity tends to reduce distribution and service complaints because of the cleaner gas which ultimately lowers operating and maintenance costs.

If you have a problem in gas purification, Connelly's 68 years of experience is at your service. Our engineers can help you . . . there is no obligation on your part.

CONNELLY IRON SPONGE & GOVERNOR CO.
ELIZABETH, N. J. LOS ANGELES, CALIF.
3154 SOUTH CALIFORNIA AVE., CHICAGO 8, ILL.

COMPLETE GAS PLANTS

●

INDUSTRIAL FURNACES

●

THE GAS MACHINERY CO.
16100 Waterloo Road
Cleveland 10, Ohio

Bryant Heater To Manufacture Industrial Heating Elements

Bryant Heater Company, Cleveland, Ohio, long a prominent producer of domestic gas heating equipment, announces the establishment of an Industrial Division to handle the development and distribution of gas combustion components for industrial and process equipment.

Activity in the division, which is intended to round out the Bryant position in the gas industry, is centered on the development of an improved line of mixers, injectors, burners and specialized items of gas combustion equipment.

Donald A. Campbell

Initial products are announced as being a new proportional mixer (Bryant Flomixer); high and low pressure injectors (Hijectors and Lojectors); tunnel burners, combustion blowers, and opentype burners and cages.

Basic design work on a number of the new products is nearing completion and volume production of certain parts will be reached by the first of the year.

The Industrial Division is under the direction of Donald A. Campbell, who has specialized in gas and combustion engineering since his graduation from the Engineering School of the University of Colorado in 1916.

Payne Furnace Co. Expands Manufacturing Facilities

Payne Furnace Company, Beverly Hills, Calif., has launched a quarter-million dollar expansion and building program, designed to double production of its gas-fired heating equipment.

The plan contemplates the immediate construction of two additions to the factory, totaling 64,000 sq. ft., and the installation of the most modern new machinery and equipment, such as a battery of paint-drying ovens and conveyor systems to speed line-production and loading. The objective is to fill orders as soon as received, contingent on availability of materials.

"Payneheat," said to have achieved prewar leadership as America's largest producer of gas furnaces exclusively, is affiliated with Dresser Industries, Inc., a nationwide group of manufacturers.

H. M. TAYLOR RETURNS TO RUUD

Mr. Henry M. Taylor has returned to Ruud Manufacturing Company, makers of automatic gas water heaters, Pittsburgh, Pa., following his recent release from war-time duties with the United States Department of Commerce.

Mr. A. L. McKinstry, Sales Supervisor, Iowa-Illinois Gas & Electric Company is seen with his staff welcoming Mr. Taylor back to Cedar Rapids where he will make his headquarters as District Sales Manager for Ruud.

Dresser Manufacturing Division Appoints Sales Manager

The appointment of Hanford Z. Hight as Sales Manager of Dresser Manufacturing Division, Bradford, Pa., is announced by Hector P. Boncher, General Manager.

Hanford Z. Hight

For the past three years Mr. Hight has served with the United States Navy as an Air Combat Intelligence officer. His last duty was aboard the escort carrier, U.S.S. Shipley Bay, attached to the Third and Fifth fleets during the Okinawa operation.

Prior to his service with the Armed Forces, Mr. Hight was District Manager of Dresser Manufacturing Division in the mid-west territory.

Union Carbide & Carbon Elects Officers

Fred H. Haggerson, President, Union Carbide and Carbon Corporation, has announced the election by the Board of Directors of the following officers of the Corporation:

Dr. Joseph G. Davidson, Vice-President—Chemicals Division; Stanley B. Kirk, Vice-President—Industrial Gases Division; James W. McLaughlin, Vice-President—Plastics Division; William J. Priestley, Vice-President—Alloys and Metals Division; John H. Rodger, Vice-President—Railroad Division; Arthur V. Wilker, Vice-President—Carbon Division; H. Earl Thompson, Vice-President—Engineering; Robert J. Hoffman, Vice-President—Industrial Relations; Morse G. Dial, Secretary-Treasurer.

All of the new officers of the parent Corporation are officers of important subsidiary companies. Dr. J. G. Davidson is President of Carbide and Carbon Chemicals Corporation; S. B. Kirk is President of The Linde Air Products Company; J. W. McLaughlin is President of Bakelite Corporation; W. J. Priestley is President of Electro Metallurgical Company; J. H. Rodger is President of The Oxweld Railroad Service Company; A. V. Wilker is President of National Carbon Company, Inc.; H. E. Thompson is Vice-President and Director of Carbide and Carbon Chemicals Corporation and Bakelite Corporation; R. J. Hoffman is Director of various subsidiaries and President of Union Carbide and Carbon Research Laboratories, Inc.; and M. G. Dial is Secretary-Treasurer of many of these subsidiary companies.

Southern Union Gas Company Elects Hughes and Lea

C. H. Zachry, president of Southern Union Gas Company, Dallas, Texas, has announced that the company's board of directors recently elected Scott Hughes, Dallas, vice president, and Willis L. Lea, Jr., Dallas, general attorney.

Scott Hughes

Mr. Hughes, formerly general attorney of the company and for the past three years on leave of absence serving as a major in the Army Air Corps, was released from active duty in September of this year. He has been associated with Southern Union 14 years.

Willis H. Lea, Jr.

Mr. Lea has been a member of the company's legal department since 1936, is assistant secretary of Southern Union, and is a member of the Dallas and American Bar Associations.

Other officers of the company are Wofford Cain, chairman of the board, Dallas; James C. Reid, vice president-operating manager, Dallas; J. R. Cole, vice president, Santa Fe, New Mexico; Ross Byron, vice president, Chicago; H. V. McConkey, secretary-treasurer, Dallas; J. Glenn Turner, general counsel, Dallas; Ethel O'F. Johnson, assistant secretary, Dallas; F. D. Bradley, assistant treasurer, Dallas.

Southern Union Gas Company, a natural gas utility with headquarters in Dallas, Texas, was organized seventeen years ago. Today the company is serving 60,000 consumers in 29 cities in Texas and New Mexico.

Peoples Natural Gas Provides Underground Storage Pools

Reserve storage facilities of The Peoples Natural Gas Company in Pennsylvania have been increased to more than four and one-half billion cubic feet during the past summer to prevent repetition of the natural gas shortage of last winter, according to E. M. Borger, president of the company.

This is an increase of about one billion cubic feet over available reserves last winter when industrial demands for war production and the diversion of gas from Peoples' territory by the government caused temporary curtailment of adequate supply.

About $1,750,000 has been invested by Peoples in five underground storage pools which now are in use and in gas inventory. All are located near the main transmission lines of the Peoples system so that they serve not only Western Pennsylvania but Peoples customers in communities as far east as Johnstown and Altoona.

Pilot Plant Studies on Gas Transmission

Large scale experimental studies to improve the equipment for natural gas pipelines are now being conducted by the Engineering Experiment Station of the University of Colorado for Stearns-Roger Manufacturing Co. of Denver, designers and manufacturers of processing equipment for the oil and gas industries.

Two 14-foot high reaction towers are part of the equipment that was being erected this week at the laboratories of the station as the research engineers under Dr. J. E. Stepanek, Assistant Professor of Chemical Engineering, began assembling the equipment for the projects.

"We are trying to develop improved methods for removing water vapor from natural gas so that the pipelines won't freeze up and stop the flow," Dr. Stepanek explained. "Even on days when the temperature is above the normal freezing temperature, high pressure gas lines will freeze and plug if there is too much water vapor present in the gas."

The research engineers will also do pilot plant studies on the efficiency of other types of equipment used in high pressure gas transmission.

According to Stearns-Roger officials this work is the beginning of an expanded research program by the Company in many phases of chemical and petroleum engineering.

The research work for Stearns-Roger is but one phase of the Engineering Experiment Station program. Cooperative studies are under way for several other Colorado industries, as well as research projects for the State Industrial Development Research Board, several agencies of the national government, out-of-state industries, and national research foundations. In all, some twenty projects are being actively pursued at the present time.

Freeman Retires as President Columbia Gas & Electric

W. Winans Freeman, whose 56 years of active business life parallels the development of the electric light and power industry, will retire as Vice President of Columbia Gas & Electric Corporation at the end of the year.

Mr. Freeman first came to New York in 1889 as secretary to the General Manager of the Edison Electric Illuminating Company of Brooklyn. When he resigned in 1912 he was Vice President and General Manager.

He became Vice President and General Manager of the Alabama Power Company and was in charge of its prospective program of hydro-electric development throughout Alabama. In 1914 Mr. Freeman became associated with the Columbia Gas & Electric Corporation as a Director and Vice President with residence in Cincinnati. He assumed chief executive direction of the Union Gas & Electric Company there along with other subsidiary utility companies of the Columbia System.

Servel Inc. Appoints Clara A. Ridder

Miss Clara A. Ridder has been appointed Home Service Director of Servel, Inc., it was announced recently by R. J. Canniff, advertising and sales promotion director for Servel. Previous to coming to Servel, Miss Ridder was executive secretary of the Colorado Nutrition Council in Denver.

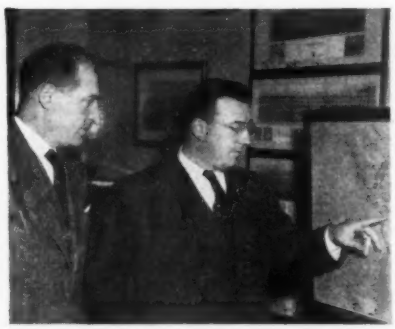
Miss Ridder succeeds Miss Frances Cowing who left Servel earlier this year. In addition to her position as executive secretary of the Colorado Nutrition Council, she formerly served as regional nutritionist for the National Live Stock and Meat Board, instructor in home economics at the New Mexico State College of Agriculture and Mechanic Arts, and as home demonstration agent in Perkins County, Nebraska.

Clara A. Ridder

Miss Ridder received her bachelor's degree in home economics from the University of Nebraska in 1936, and her master's degree in nutrition from the University of Arizona in 1938.

Gottwald Goes to South America

H. "Red" Gottwald, for 17 years a service engineer for Pittsburgh Equitable Meter Company-Nordstrom Valve Company in the metropolitan New York territory, has been assigned to the Rockwell International Corporation, to handle export sales and service of the company's products. Mr. Gottwald has been appointed special representative for Latin America by A. L. Di Giulian, Vice President and General Manager of the export firm. He is now making a preliminary trip covering the important markets in South America.



A. L. DiGiulian, Vice President of Rockwell International Corporation, points to Latin American area that Gottwald will cover.

Mr. Gottwald is a graduate of Syracuse University, and has made his home in Scotch Plains, N. J., where he was active in civic affairs. His background of experience among the utilities, major oil companies and engineering firms will be of invaluable aid to a similar class of equipment users in Latin America.

Infra Red Ray Barbecues Steer for Ceramists

The startling success of the infra red furnace—in the unusual role of barbecuing cattle was revealed at a recent Ceramic Society meeting.

Outdoor infra red cooking of a 900-pound steer required only 10 hours—less than half the time gas utility officials estimated would be required with the orthodox gas oven.

The meat was pronounced done to a turn by some 200 guests, members of the Pittsburgh section of the American Ceramic Society, who partook of the experimental roast at the East Liverpool Country Club.

The infra red barbecue, utilizing gas thermal radiators to produce a surface heat of 2,300 degrees Fahrenheit, was designed to dramatize for the Ceramic men the versatility of this new type furnace, which is being widely installed in the pottery industry.

American Meter Co. Appoints Mgr. of Philadelphia Plant

American Meter Company has announced that William G. Hamilton, Jr., was promoted from Assistant Manager to Manager of the company's Philadelphia factory.

W. G. Hamilton Jr.

He joined American Meter Company in 1927, engaging in factory production until 1937, when he was advanced to engineering and sales activities, particularly in the fields of pressure regulation, flow measurement and flow control. He added the duties of Assistant Manager in 1941. During the war he has been in charge of Philadelphia factory operations as Acting Manager, including extensive war production for which two "E" awards have been won, while Colonel R. W. McClenahan, the former Manager, was on leave of absence.

Colonel McClenahan will return to the company as soon as his discharge in the near future becomes effective.

Editorial Expansion in Foods and Equipment

McCall's Magazine plans immediate editorial expansion in both food and home appliances, according to an announcement recently made by Otis Wiese, Editor-in-Chief of the publication. Because of the rapidly expanding post-war developments in home appliances, and the techniques involved, Elizabeth Sweeney, who has been Food and Equipment Editor, will devote her attention exclusively to the Household Equipment department of McCall's, and as its Director will increase the scope of the work there both as it concerns material for the magazine, and in the direction of testing. Mrs. Susan Adams, Associate Editor in charge of food presentation for the past year, becomes Food Editor.

Miss Sweeney is well equipped for her post as Director of McCall's Home Appliance Department. She was, for some years, Director of Home Service for the Central New York Properties of the Associated Gas and Electrical System. Later, Miss Sweeney was appointed to the teaching staff of Syracuse University. She was Assistant Professor of Household Technology at the time she left to join the McCall Corporation.

Susan Adams Elizabeth Sweeney

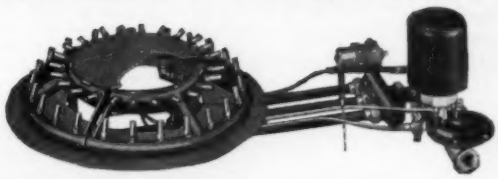
The newly appointed Food Edtior, Mrs. Adams, was for many years Home Economics Director and Women's Feature Editor of the Oklahoma Publishing Company in Oklahoma City, before she came to the McCall organization a year ago. Her assignments there included a daily column in *The Daily Oklahoman*, Oklahoma's largest state newspaper, and a daily broadcast over radio station NKY.

CLEVELAND

"A" TYPE METERS
"B" TYPE METERS
DIAPHRAGMS

Cleveland Gas Meter Co.
ESTABLISHED 1875
2009 Rockwell Ave., Cleveland 14, O. Phone CHerry 2351

BARBER BURNERS



Barber Gas Conversion Burners, automatically or manually controlled, are made in sizes and capacities to fit the heating requirements of all types of round or oblong furnaces and boilers, and to operate economically on any kind of gas fuel. Catalog and prices on request.

THE BARBER GAS BURNER CO., 3704 SUPERIOR AVE., CLEVELAND 14, OHIO

30th Annual Convention New Jersey Utilities Assn.

The New Jersey Utilities Association held a two-day meeting at the Seaview Country Club, Absecon, N. J., Nov. 16th and 17th.

The Association membership represents all the utilities—gas, electric, telephone and water, operating in the state of New Jersey. Mr. Harry Bacharach is the Executive Director of the Association, whose office is in Atlantic City, N. J.

An important function of Executive Director is to collect important releases and other publications and documents by Federal and State Commissions and other bodies. These are distributed to the members from time to time in order to keep them informed on matters affecting their particular industry.

The President of the Association is H. C. Thuerk, President, New Jersey Power & Light Co., Dover, N. J., who opened the meeting.

The speakers were: Honorable Charles R. Erdman, Jr., Commissioner, State of New Jersey, Department of Economic Development; Charles P. Gulick, President, National Oil Products Company; Wheeler McMillen, Editor of the Farm Journal; H. Hammond Armstrong, Commercial Engineer, New Jersey Bell Telephone Company; H. Carl Wolf, Managing Director, American Gas Association.

Gas Properties Merge

Plans for the merger of the gas properties of the Florida Power Corporation with those of the Savannah-St. Augustine Gas Company have been announced by Howard S. Wheeler, vice president of Leedy, Wheeler & Company. This will combine the operations of the gas properties in Orlando, Winter Park, Sanford and DeLand with those of the cities of St. Augustine and Savannah, Georgia, and will result in the incorporation into one operating unit of these various manufacturing and distributing gas facilities. The name of the operating corporation will be the South Atlantic Gas Company, of which H. Hansell Hillyer will be president. The new organization will afford strong operating experience and increased engineering facilities for the approximately 28,500 customers served in the various municipalities involved.

Harry Bacharach
Executive Director N.J.U.A.

The gas systems of Orlando, Winter Park, Sanford and DeLand were purchased under a contract entered into last January 20th by the Florida Utilities Corporation, and the present merging of these with the plants of the Savannah-St. Augustine Gas Company has been effected by Leedy, Wheeler & Company, Investment Bankers of Orlando, Florida.

Merger of the Owensboro Gas Company and the Western Kentucky Gas Company, serving Bowling Green, Hopkinsville and other Southwest Kentucky towns, has been approved by the Public Service Commission.

The combined operation will serve 16,000 retail customers in 35 communities, with retail rates remaining the same. W. T. Stevenson, fiscal officer of the new firm, asserted the merger would reduce the bonded debt of the two firms and would result in operating economy, since both firms serve customers in overlapping territory. The new firm will operate under the name of the Western Kentucky Gas Company.

8 Kentucky Communities to Get Natural Gas

The Kentucky Natural Gas Distributing Company has been chartered to furnish gas to eight Central Kentucky Cities.

The new company, which will have headquarters at Frankford, Ky., will supply gas to Bardstown, Burgin, Harrodsburg, Lancaster, Lawrenceburg, Lebanon, Springfield and Sanford.

John E. Buckingham, former Kentucky State treasurer, is vice-president of the new company.

The company will purchase natural gas from the Tennessee Gas and Transmission Company of Houston, Tex., which recently completed a pipe line into Tennessee.

Mid-Southeastern Gas Assn. Elects A. E. Jones Pres.

A. E. Jones, of Wilmington, N. C., was elected president of the Mid-Southeastern Gas association at the conclusion of a two-day meeting held at Raleigh, N. C., Nov. 15-16. Jones succeeds J. S. Rider of Sumter, S. C.

Other officers elected are: C. B. Zeigler of Gastonia, first vice president; L. A. Scott of Charlotte, second vice president; and Edwin Fulton of Richmond, Va., D. A. Crawford of Atlanta, Ga., and Eugene Leier of Columbia, S. C., directors.

"West's Gas"

With the October 1945 issue, this House Journal makes its reappearance opening with a salutation to the Industry by Sir Frederick J. West. The contributions of this organization to the war effort are modestly expressed.

New plant and reconstruction during the war period are outlined and illustrated. Home guard activities and procedure are described and some war equipment well illustrated.

Tribute is paid to personnel of long service with the organization and to those who took part in active campaigns in the war theatres.

At present, *West's Gas* will appear on alternate months only. Copy available through West's Gas Improvement Co., Ltd., Manchester 10 or from American headquarters, 426 Madison Ave., New York 17.

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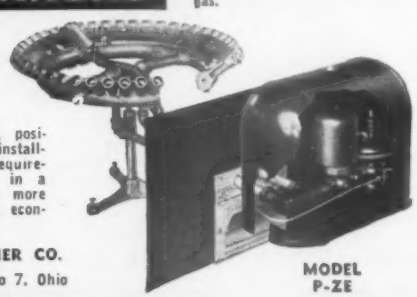

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Sum of Absolute Pressures—Lbs. per sq. in., 2000-20
Specific Gravity—1.5-.35
Length of Pipe—Feet 100-5000
Length of Pipe—Miles 1-250

Low Pressure
RANGE:
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"PEACE ON EARTH— GOOD WILL TO MEN"

After six years of war we can again say, "Peace on Earth, Good Will to Men." This wish has far more significance today than ever before.
For today man has discovered the force which destroys mankind. He must prove that the force that keeps men together is greater than the force that drives them apart; that "Peace on Earth, Good Will to Men" is not just a wish, but a way of life.

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Portland Gas & Coke Co. Elects Gueffroy V.P.

Paul B. McKee, president, Portland (Ore.) Gas & Coke Company, announces the election of C. H. Gueffroy as a vice president, to have charge of by-products sales and market investigations, rate and regulatory matters, budgets, financial studies and related activities.

C. H. Gueffroy

Mr. Gueffroy has been a member of the gas company organization for 25 years. For the past 12 years he has served as assistant to the president. In this capacity he has acquired an extraordinary fund of intimate knowledge about all phases of our operations.

Mr. McKee said the company looked forward to the continued growth of the region, and to the accompanying development of the company's business, both in the gas service field and in the realm of chemical by-products.

The latter field offers many interesting possibilities. Mr. Gueffroy will be provided with an able staff of associates, who will pursue aggressively our opportunities to broaden by-products operation.

Rockwell Manufacturing Co. Changes Approved

At a special meeting held Dec. 3rd, stockholders approved the recommendations of the Board of Directors that the name of the Pittsburgh Equitable Meter Co. be changed to the Rockwell Manufacturing Co., and that stock be split, four shares for one.

Directors of the Pittsburgh Equitable Meter Co. will continue as Directors of the Rockwell Manufacturing Co. Col. Williard F. Rockwell, for whom the company is named is Chairman of the Board and President. Serving with him on the Board are J. Frank Drake, Meredyth H. Ewing, Edgar W. Meyers, Henry A. Phillips and Willard F. Rockwell, Jr., Pittsburgh; John L. Merrill, Sven J. Nordstrom and Herbert S. Shuey, San Francisco; Elisha Walker, New York; and W. F. Crawford, Chicago.

The Pittsburgh Equitable Meter Company name will be continued as a subsidiary of the Rockwell Manufacturing Co. marketing measuring equipment for water, gasoline, oil and other liquids, manufactured in plants located in Pittsburgh, Brooklyn and Hopewell, N. J.

The increasing scope of the Company's manufacturing facilities and products prompted the change in the Company name. In addition to the Pittsburgh Equitable Meter Company, the Rockwell Manufacturing Company is the parent company of the Merco Nordstrom Valve Co., Oakland, Calif.; Rockwell Machine Co., Hopewell, N. J.; the Edward Valve & Mfg. Co., Inc., East Chicago, Ind.; The Delta Manufacturing Co., Milwaukee, Wis.; The V. & O. Press Co., Hudson, N. Y.; The Crescent Machine Co., Leetonia, O.; Rockwell International Corp., New York, New York; and Monessen Foundry and Machine Co., Monessen, Pa. More than 4,000 people are employed in the various subsidiaries and divisions.

At the same time the name change was approved, stockholders voted to increase the authorized stock from 500,000 to 4,000,000 shares, and to split outstanding shares, four for one. The present shares now outstanding are therefore increased proportionately.

Officers of the Rockwell Manufacturing Company include Col. Rockwell, President; W. F. Rockwell, Jr., Vice President and General Manager; J. Frank Drake, W. S. Potter and A. J. Kerr, Vice Presidents; H. A. Phillips, Vice President and Secretary; Edgar W. Meyers, Treasurer; and E. W. Meyers, Jr., Controller.

Rockwell Subsidiary Changes Name to Nordstrom Valve Co.

Directors of the Merco Nordstrom Valve Co., subsidiary of the Rockwell Mfg. Co., of Pittsburgh are announcing the shortening of the name to Nordstrom Valve Co.

The Nordstrom Valve Co., builds Nordstrom Lubricated Plug Valves, and air and service cocks, Nordco lubricants and valve accessories. The principal manufacturing facilities for Nordstrom Valves are located in Oakland, Calif., with additional facilities in Pittsburgh and East Chicago, Ind.

There are no changes in the personnel or sales policies of the company.

Mrs. Dunbar Heads Home Service Committee

J. J. Quinn, chairman of the Residential Gas Section of the American Gas Association, has appointed Mrs. Lillian P. Dunbar as chairman of the 1946 Home Service Committee.

Mrs. Dunbar joined the Cambridge Gas Light Company as Home Service Director in 1943, after having served in a similar capacity for six years with the Brockton, Mass., Gas Light Company.

The new chairman has served for three years on the American Gas Association Home Service Committee and has been a member of the New England Gas Association Appliance Study Committee.

JAN 16 1947

Obituary

FRANK A. NEWTON

Frank A. Newton, for many years in general supervisory charge of rates for The Commonwealth & Southern Corporation system, died November 16th of a heart attack in Peoria, Illinois. Mr. Newton was born in Sparta, Wisconsin, May 21, 1884, and attended the college of Engineering at the University of Wisconsin. In 1912, he joined the staff of Hodenpyl Hardy & Co. in connection with public utility rate and valuation matters and when The Commonwealth & Southern Corporation was formed in 1929 he was placed in general supervisory charge of rates for that system. Mr. Newton also had been Chairman of the Rate Research Committee of the Edison Electric Institute for a number of years and was a frequent contributor to technical and trade publications on matters pertaining to rate and valuation matters.

E. H. BOOMER

Dr. E. H. Boomer, chairman of the Alberta Conservation Board, and one of Canada's leading chemical scientists, died recently at his home in Edmonton following a heart attack.

Dr. Boomer was also chairman of the Petroleum and Natural Gas Conservation Board and was head of the chemistry department at the University of Alberta and an expert in liquid fire warfare.

A graduate of the University of British Columbia in 1920, he was appointed chairman of the Petroleum and Natural Gas Conservation Board in 1938, succeeding J. J. Frawley of Edmonton, who resigned.

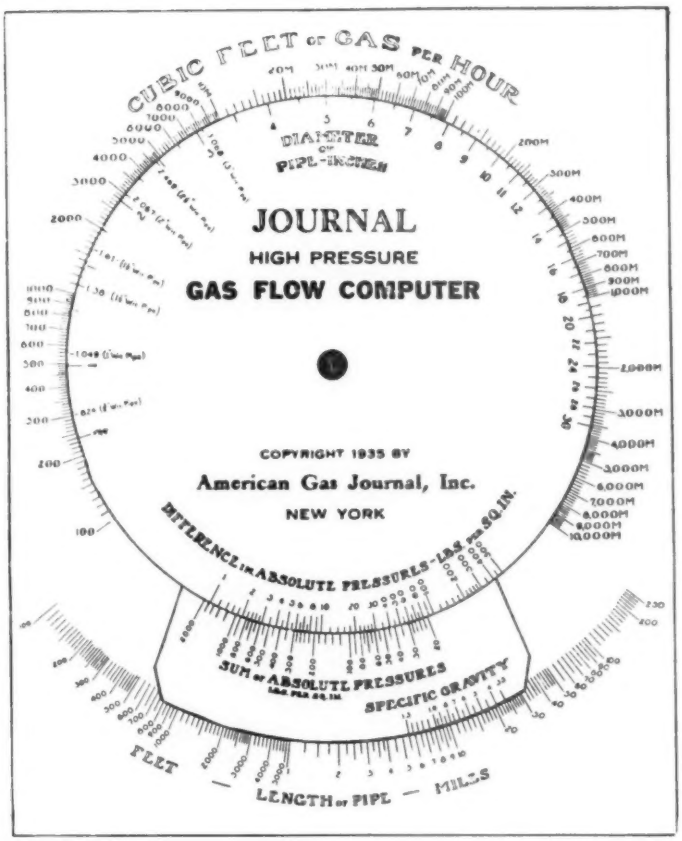
Early this year, Dr. Boomer went to Germany under auspices of the Dominion government to study the oil industry in Northwestern Germany.

JOHN P. COLLIER

John P. Collier, who for the past thirty-eight years has been connected with the American Radiator & Standard Sanitary Corporation and predecessor companies, passed away suddenly at his home in Chicago on November 21st. Mr. Collier was well known in the industry, especially in Chicago and the Midwest.

He was born in Baltimore, Maryland, on July 3rd, 1882, and first joined the American Radiator Company in March, 1907, as a Salesman at their Cincinnati Branch. In 1916 he was transferred as Salesman, Sales Engineer and Supervisor of Sales until January, 1929, when he was appointed Manager of the Company's Cincinnati Branch. He served in this capacity until January, 1936, when he became Assistant to the Manager of the Company's Chicago Branch. After the integration of the American Radiator Company and Standard Sanitary Manufacturing Company in 1939, and up until his death, Mr. Collier continued in a position of responsibility in the Company's Chicago Sales Office.

"Journal" Gas Flow Computers



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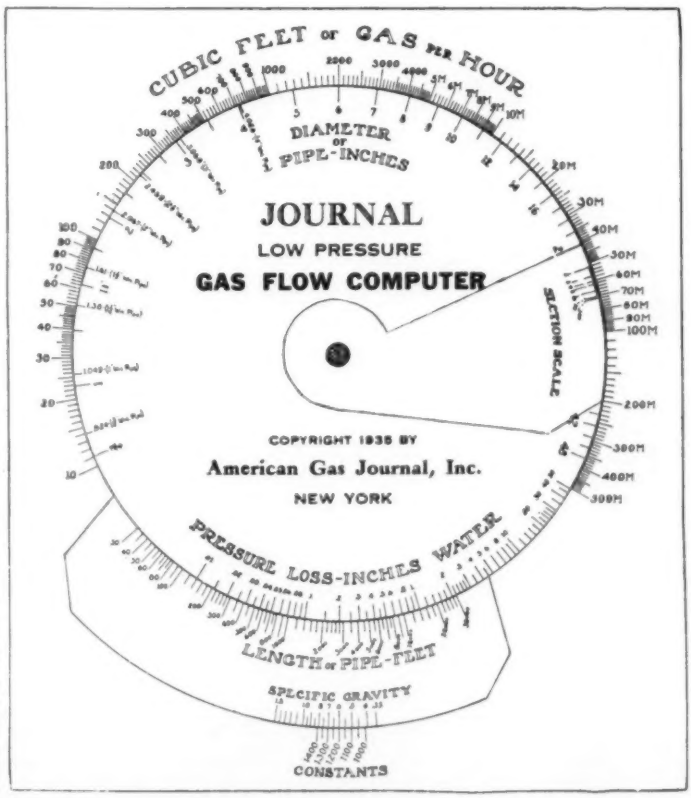

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